



AppleShare Server 3.0 Administrator's Guide

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AppleShare Server 3.0 Administrator's Guide

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About This Guide

This guide provides all the information you need to set up and administer AppleShare Server 3.0 File Servers and Print Servers on an AppleTalk network. The AppleShare File Server provides a centralized resource for users of networked Macintosh, Apple II, and IBM PC-compatible computers to store and share information. The AppleShare Print Server gives network users more efficient service from their LaserWriter, ImageWriter II, and ImageWriter LQ printers. The features you use to initiate and control these services are fully detailed in this guide.

What's in this guide

This guide is a step-by-step introduction to AppleShare 3.0 features and functions:

- Chapter 1, "Introducing AppleShare Server 3.0," provides an overview of AppleShare network services, with special attention given to the new features offered in AppleShare version 3.0.
- Chapter 2, "Getting Started," explains how to set up the server computer and how to install the AppleShare 3.0 software.
- Chapter 3, "Setting Up File Service," provides instructions for setting up file service, establishing file server security, and starting file service for network users.
- Chapter 4, "Setting Up Print Service," shows you how to set up network printing.

- Chapter 5, “Apple II Network Startup,” explains how to allow Apple II users to start up from system files on the network rather than on their local computers.
- Chapter 6, “File Server Supervision,” provides instructions for monitoring and controlling file server activity, and for communicating with server users.
- Chapter 7, “Print Server Supervision,” provides instructions for monitoring and controlling print server activity.
- Chapter 8, “Troubleshooting,” explains common file and print server problems, with solutions for each one.
- Appendix A, “Using a Modular Macintosh as a Server Without a Monitor,” describes how to start up a file server and then maintain it without a monitor.
- Appendix B, “Instructions for Installing AppleShare 3.0 on System 7 Workstations,” provides instructions that you can distribute to System 7 users for installing AppleShare 3.0 workstation software on their computers.
- Appendix C, “AppleShare Server 3.0 Specifications,” provides detailed product specifications.

The guide also includes a glossary of terms and an index.

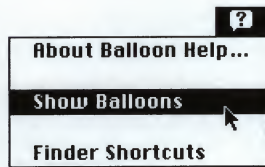
Other sources of information

This guide provides all the information you need to set up and administer AppleShare 3.0 file and print services. Depending on your level of computer experience and your needs, you might benefit from using two other sources of information:

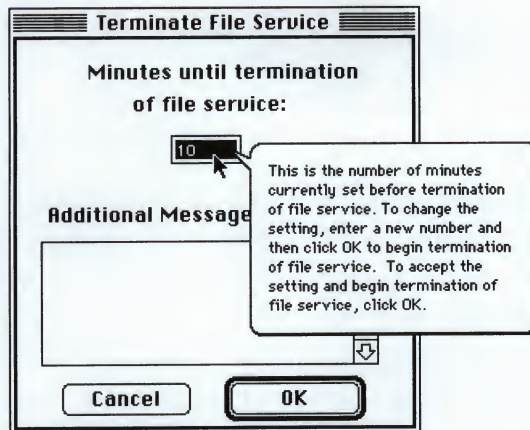
- The *AppleShare Server 3.0 Administrator's QuickStart* is a condensed version of the instructions you need to set up file and print services. Each section of the *QuickStart* corresponds to a fuller set of instructions here. So you can start with the *QuickStart* and refer to the *AppleShare Server 3.0 Administrator's Guide* only if you need to. You may accomplish all you need to using only the *QuickStart*.

- Balloon Help provides immediate, on-screen help when you need it. If at any time you don't understand the instructions in this guide—or in the *QuickStart*—or if you see a window, button, menu, command, or icon you want to know more about, follow these steps:

1 Choose Show Balloons from the Help menu.



2 Position the pointer over the item you want to know more about.



A balloon appears with an explanation of that item.

You can turn off Balloon Help at any time by choosing Hide Balloons from the Help menu.

Do you have what you need?

The following sections detail the hardware, network, and software requirements for using AppleShare Server 3.0.

Hardware requirements

You can use any desktop model of Macintosh computer capable of running Macintosh system software version 7.0 (or later) to run AppleShare Server 3.0. If you are setting up AppleShare servers in an environment of mixed Macintosh computers, you should consider using the model that provides the best performance (that is, greatest memory, fastest processing, and so on) as the server computer.

- △ **Important** The server computer should have a recommended minimum of 4 megabytes of **RAM** (random-access memory) to run *all* the AppleShare 3.0 services simultaneously. If your computer does not have a built-in hard disk, you'll need an external hard disk, such as those in the Apple Hard Disk SC series. △

Network requirements

You connect your AppleShare server to an AppleTalk network using the same type of networking software and cable type as other devices on the network. Any AppleTalk network is capable of supporting AppleShare 3.0. The most common choices are LocalTalk, Ethernet, and Token Ring, but there are a variety of other alternatives available. (See your network administrator or your authorized Apple reseller or representative for more details.)

- △ **Important** This guide assumes you already have a network in place to which you are adding (or upgrading to) AppleShare 3.0. If not, consult the documentation that came with the network materials you plan to use before continuing in this guide. △

Software requirements

Your AppleShare Server 3.0 package includes these four disks:

1. *AppleShare File Server*
2. *AppleShare Print Server*
3. *AppleShare Workstation*
4. *Apple II Setup*

In addition to the AppleShare 3.0 software, the server computer must be equipped with Macintosh system software version 7.0 or later. Workstation computers can run any version of system software from 6.0.3 or later, including version 7.0.

△ **Important** You should install system software version 7.0 (or later) on the server computer *before* installing AppleShare 3.0 software. If you don't have this software, contact your authorized Apple reseller or representative before proceeding.

You should upgrade *all* workstation computers to AppleShare 3.0, regardless of the system software version used by each computer. △

Special requirements

If you're connecting your AppleShare server to an AppleTalk network other than LocalTalk or Ethernet, you may need additional software. (See the appropriate documentation for more information.)

If you're adding PC-compatible computers to the network, your users will need appropriate hardware and software. Contact your authorized Apple reseller or representative for more information.

Apple IIe users require the Apple II Workstation Card, explained in the *Apple II Workstation Card User's Guide*. Apple IIGS computers are already set up for network operation. The *AppleTalk Network User's Guide for the Apple IIGS* provides complete information about getting the most out of a networked Apple IIGS.

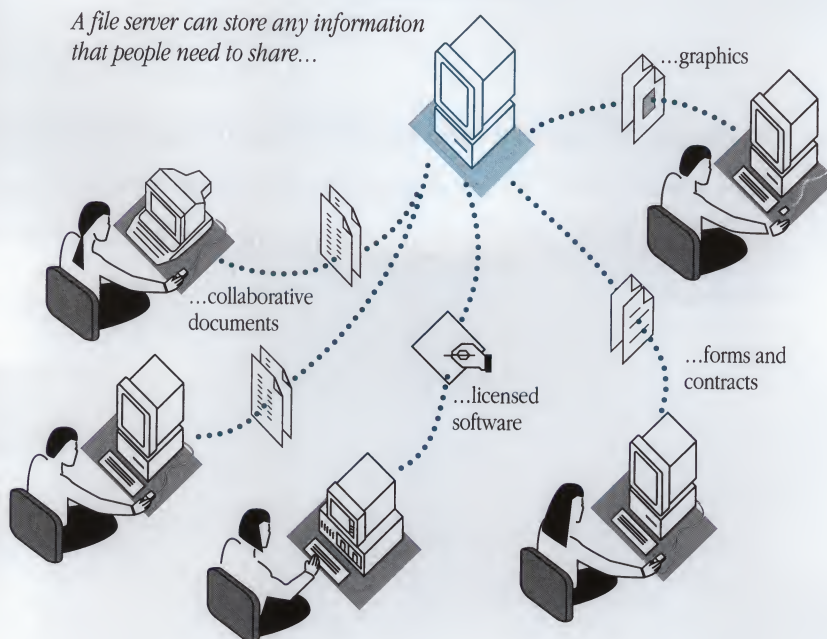


1 Introducing AppleShare Server 3.0

This chapter introduces the features and functions of AppleShare Server 3.0, focusing on what's new in version 3.0. The chapter also offers a brief look at the AppleTalk network system and network administration, and it provides suggestions for obtaining more information.

About the AppleShare 3.0 File Server

An AppleShare File Server is a centralized resource on an **AppleTalk** network where users can store and share information. It consists of a Macintosh computer running the AppleShare File Server program, which controls the sharing process, and one or more hard disks and/or CD-ROMs, which provide space for the accumulated files and folders. Each connected hard disk or CD-ROM (or designated subsection of those disks, as explained later in this chapter) is known as a server **volume**.



AppleShare file service is equally suited to small working groups in one geographic area or to diverse user populations scattered throughout a large **internet**. A single server can accommodate over a thousand **registered users**, with up to 120 connected at any one time. A single network or internet can include many servers, and with the right **access privileges**, a user can access any connected server.

Macintosh, Apple II, and PC-compatible computer users can all fully participate in using the AppleShare File Server. A single network can consist of one type of computer or a mix of any of the three.

All AppleShare File Server users can continue to work on their local computers just as they always have, following the usual methods for using application programs and files. For Macintosh users in particular, the AppleShare File Server is simply an extension of the local working environment. Macintosh users have to learn almost nothing new to make full use of the opportunities provided by the AppleShare File Server. Server volumes appear on the desktop and can be opened like any other volume.

At the same time, users of different computer types will find the AppleShare File Server a convenient way to communicate. With the right software, files stored on the server by a PC user, for example, can be read by another person on the network using a Macintosh computer, and vice versa.

What's new in AppleShare 3.0 File Server?

If you already know how to work with AppleShare 2.0, you'll find it extremely simple to use version 3.0. Most of the menu commands and dialog boxes are the same. The new commands reflect the new capabilities built into the software.

Nondedicated operation

The AppleShare 3.0 File Server is designed to work with Macintosh system software version 7.0 (and later), enabling you to keep several programs running at the same time and to switch back and forth between them without quitting. The only limit on the number of programs that can be open is the available RAM in your computer.

This feature makes the AppleShare File Server much easier to administer. In AppleShare 2.0, you could run the server and administration (Admin) programs concurrently, but you had to shut down file service if you needed to work with any other software, such as the Print Server. This is no longer true.

You can run AppleShare Admin, the AppleShare Print Server, and other service programs, such as electronic mail, concurrently with the File Server. You can switch back and forth among them as needed with no interruption of service. When you quit the AppleShare File Server program temporarily, you don't have to shut down your computer, so other services can continue to run.

In addition, the server computer no longer needs to be dedicated exclusively to network services. Provided the server computer has sufficient memory, you can run programs such as word processing or electronic mail simultaneously with file and print service.

Server volumes

The AppleShare 3.0 File Server lets you choose to share either an entire disk or selected folders from within it. This is particularly helpful if you are using the server computer for non-server work as well, because it allows you to isolate your private disks and folders without worrying about setting up the correct access privileges.

The folder or folders you do share on a disk or drive appear as available volumes after connecting to the file server. From the user's point of view, there is no difference between a volume that consists of an entire disk and a volume that is actually a folder on a disk.

For more information on folder sharing, see Chapter 3, "Setting Up File Service."

△ **Important** In earlier versions of AppleShare, the terms “volume” and “hard disk” were often used interchangeably. To avoid confusion, the two terms are now kept distinct. The term “volume” in AppleShare Server 3.0 is used only to describe a shared entity available on the server and displayed at any workstation computer after connection to the server. “Hard disk” refers to a mass-storage device either built into the computer or connected to it. △

Enhanced CD-ROM support

In earlier versions of AppleShare, you had to terminate file service before you could change CD-ROM discs. With the AppleShare 3.0 File Server, you can “unmount” a CD-ROM volume using the file server’s Unmount Volume command. After a specified time, the disc is ejected, and you are free to insert another and make it available on the server.

Inherited privileges

When you create a folder, it starts out with the same privileges as the folder it is enclosed in. If you then drag it to another folder with different privileges, the new folder assumes those privileges. These are called **inherited access privileges**. This feature saves time and helps avoid mistakes, because in many cases nested folders are used by the same groups in the same ways. If you want a folder to have privileges different from those of the enclosing folder, you can set any privileges you want. Privileges that you set are called **explicit access privileges**. Once they are set, explicit privileges supersede inherited ones. If you then move the folder, it keeps the privileges you’ve chosen.

For more information about inherited privileges, see Chapter 3, “Setting Up File Service.”

Enhanced password security

In general, longer passwords are more secure than shorter ones, and changing passwords frequently is an excellent and easy way to protect them. You now have the option of setting a minimum length of from 1 to 8 characters (or not to set any password). You can require users to change their passwords the first time they log on to the file server or after a specified length of time. You can also prevent users from changing their passwords. In addition, you can limit the number of permitted retries to make it harder for anyone to gain entry through a lucky guess. All of these options provide you with greater control of access to the file server as well as greater data security.

For more information about password security, see Chapter 3, “Setting Up File Service,” and Chapter 6, “File Server Supervision.”

Individual or group access privileges

The AppleShare 3.0 File Server lets you assign access privileges to either a group or to a single user. In earlier versions of AppleShare, access privileges could be assigned only to a group—not to a user. If you wanted to assign privileges to just one user, you had to create a group of one. The AppleShare 3.0 File Server lets you assign access privileges to either a group or a single user. Also, groups can be assigned ownership of folders.

For more information about assigning privileges, see Chapter 3, “Setting Up File Service.”

Guest access

Guest access allows any network user access to the file server, without a registered user name or password. Formerly, guest access was turned on by default unless the administrator specifically turned it off. If you are upgrading from AppleShare 2.0, guest access will remain the way it was previously set. If, however, you are installing AppleShare for the first time with version 3.0, guest access is turned off until you decide to allow it.

For more information about guest access, see Chapter 3, “Setting Up File Service.”

Multiple superusers

A **superuser** is a user who has remote access to all disks that have been prepared for server use. That means a superuser has full access to all folders and files contained on those disks, regardless of whether those folders and files have been specifically shared. As administrator, you are automatically a superuser. In AppleShare 2.0, the administrator was the only superuser; now you can designate additional superusers if you wish. Of course, the server can also function without other (or any) superusers.

For more information about preparing disks and about superusers, see Chapter 3, “Setting Up File Service.”

Flexible limits on user connections

The AppleShare 3.0 File Server supports up to 120 concurrent users, versus a maximum of 50 in earlier versions. Depending on user demands and performance needs, you can set the maximum for any number from 1 up to the 120-user maximum—whatever limit best fits your performance needs.

For more information on concurrent server use, see Chapter 6, “File Server Supervision.”

User disconnection

The AppleShare 3.0 File Server allows you to disconnect one or several users without disrupting network services for other users. This is sometimes necessary if a user's computer is connected to the network but idle, or if you need to suspend a user's privileges for any reason.

For more information on user disconnection, see Chapter 6, “File Server Supervision.”

Controlling program use

The AppleShare 3.0 File Server lets you control the number of users who can work with a server-based program simultaneously. You set a use limit, and when that limit is reached, no one else can start up the program until someone who is currently using the program quits. Many software publishers set limits for their network-aware software, and enforcing these limits is often part of your company or school agreement with the publisher. This control gives you an easy way to honor your commitment.

For more information on limiting program use, see Chapter 6, “File Server Supervision.”

Server messages

You have the ability to send various types of messages to server users. You can send a message to one or more users or broadcast a message to the entire network. This is a convenient way to communicate matters like upgrade alerts and service dates. You can set messages to appear automatically whenever a user connects to the server or at specified times before a scheduled shutdown, and you can also send additional messages at any time.

For more information on server messages, see Chapter 6, “File Server Supervision.”

About the AppleShare 3.0 Print Server

Many printers, including most models of Apple LaserWriter printers, are designed to be connected directly to an AppleTalk network for access by any networked computer. Sharing printers this way is an efficient use of resources, but if printer demands are heavy, bottlenecks can result. The AppleShare 3.0 Print Server helps eliminate this problem.

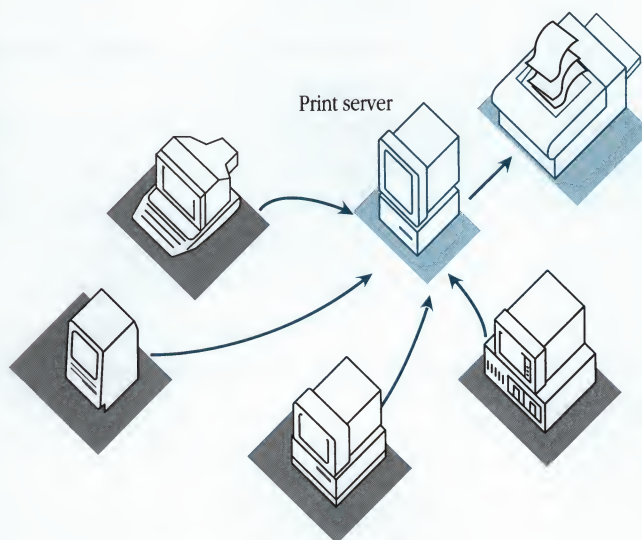
Without a print server on the network, users are forced to wait for a document to print completely before their computers are free for other work. Even with background printing, a computer's response time may be slow. And if other network users are trying to send documents to the same printer, the amount of time users spend waiting increases.

With the AppleShare 3.0 Print Server, documents go to the print server instead of directly to a printer. This process, called **print spooling** (an acronym for *Simultaneous Peripheral Operations On Line*) usually takes much less time than the printing itself. As soon as the document has been spooled, your computer is completely free for performing other tasks. The print server holds the document until the printer is free. It then sends the document to the printer for processing as usual, in the order the print job was received.

You can use the AppleShare 3.0 Print Server on its own, or you can run it concurrently with the AppleShare 3.0 File Server.

Upgrading from earlier versions of the AppleShare Print Server requires no special procedures. You use the same instructions as you would for setting up a new print server.

For detailed information on setting up and administering the print server, see Chapter 4, "Setting Up Print Service."



About AppleTalk networks and network administration

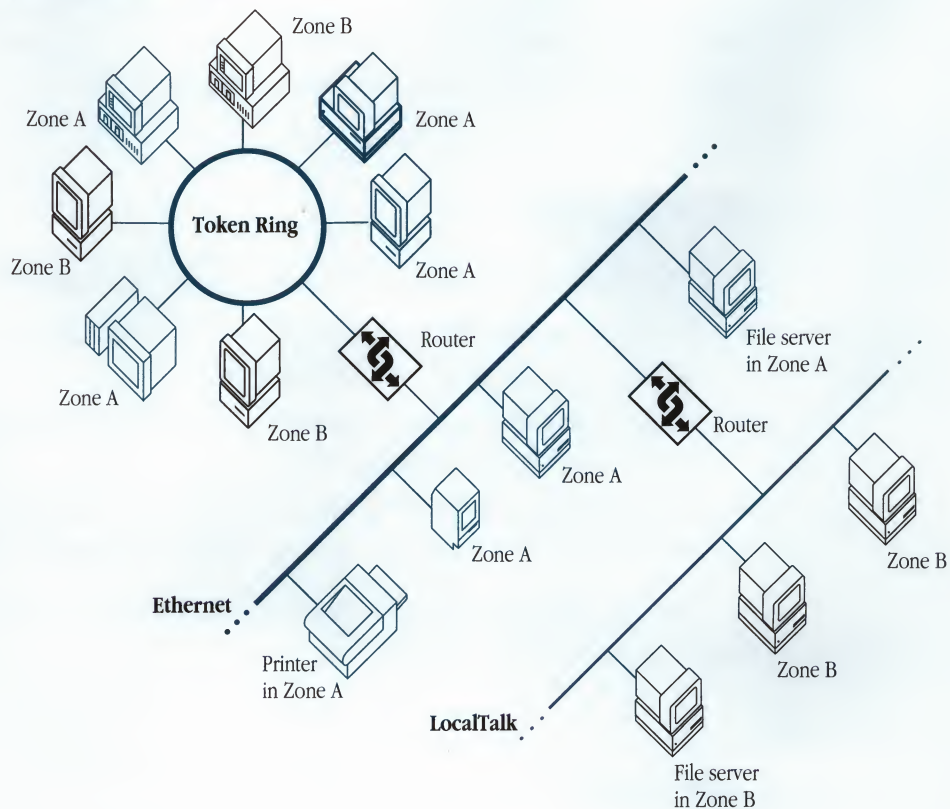
The AppleShare 3.0 File and Print Server application programs function as integral parts of an AppleTalk network. AppleTalk is a complete network system (or a **protocol architecture**) for connecting computers and peripherals. As noted earlier, you can set up an AppleTalk network using a number of different network types: LocalTalk, Ethernet, and Token Ring are the most common types. The network type used directly affects the speed of data transmission, the maximum size of individual network segments, and the cost of setting up the network.

In addition, AppleTalk networks can range in size from a Macintosh computer connected to a LaserWriter to enormous internets linking thousands of devices. These internets in turn may be composed of any number of individual segments based on different connection methods. Networks may be subdivided into **zones**, which can group users logically (by function, for instance) or geographically.

Regardless of the connection method or the size of the network or internet, you follow exactly the same procedures to set up and administer file and print servers.

As a server administrator, you are likely to have some or many network administration responsibilities. These may range from physically attaching new devices to setting up zones, connecting segments, and choosing cable systems. Depending on your responsibilities, you may need to learn more about the AppleTalk network system itself. That subject is outside of the scope of this guide, but the next section tells you where you can turn for more information.

*Users connected to different physical networks
can belong to the same zone.*



For more information

If you need to learn more about the AppleShare Server 3.0, the AppleTalk network system, or network administration, there are a variety of sources to which you can turn.

Other manuals

Every Apple networking product is accompanied by a comprehensive user's guide.

- *The AppleTalk Internet Router Administrator's Guide* describes the Apple software that you use to set up and run internets of any size.
- The *Apple Inter•Poll Network Administrator's Guide* introduces an effective and easy-to-use network monitoring tool.
- The *Aristotle Administrator's Guide* shows you how to set up and administer software specially designed for networked Apple II computers in the classroom.

Contact your authorized Apple reseller or your Apple sales representative for information on obtaining these books.

Retail books

In addition, Apple has produced a number of general books on networking in conjunction with the Addison-Wesley Publishing Company. These are available through most bookstores.

- *Understanding Computer Networks* is an easy-to-read, thorough introduction to the how, what, and why of networking.
- *Inside AppleTalk* (second edition) is a comprehensive look at the AppleTalk protocol architecture.

- *AppleTalk Network System Overview* is a simplified and shortened version of *Inside AppleTalk*.
- *Planning and Managing AppleTalk Networks* provides an in-depth discussion of administering an AppleTalk network.

There are also a large number of independently written books on all aspects of networking. You can find a good selection at many general or technical bookstores.

Group upgrade kit

Apple has also produced a special kit designed to facilitate upgrading AppleTalk networks to System 7.

- The Workgroup Upgrade Kit includes the *Macintosh Reference* and the *Macintosh Networking Reference* plus the System 7 software on floppy disks. It also includes a CD-ROM disc containing version 7.0, all the 6.0.x releases, HyperCard 2.0.1, ancillary software, and disk-based versions of the reference material. Finally, it features the *System 7 Group Upgrade Guide*, which is a step-by-step manual for upgrading small, intermediate, or complex networks.

The Workgroup Upgrade Kit is available from your authorized Apple reseller, through your Apple sales representative, or through a number of Apple user groups.



2 Getting Started

This chapter provides step-by-step instructions for getting your AppleShare 3.0 File and Print Servers ready to work, from setting up hardware through installing the server software itself. If you are new to AppleShare, all of this chapter will be relevant to you. If you are upgrading, you may have already completed many of the steps.

You may occasionally need to consult the manuals that came with your Macintosh computer or with your peripheral devices.

Preparing the server computer

You set up the server computer exactly as you would any other Macintosh, except that you should probably give extra consideration to its physical security. Access privileges, as you'll learn in Chapter 3, protect data on the file server from unauthorized access over a network. That protection can be bypassed, though, by someone with physical access to the file server. (Access privileges prevent access over the network; they cannot prevent someone from opening a folder directly on the server computer.) If you have any concerns about physical security, you should consider putting the server computer in a separate room with controlled access.

- ▲ **Warning** The AppleShare 3.0 File Server provides substantial and effective security features to prevent unauthorized access over a network. But access privileges cannot substitute for the security you gain from physically isolating the server computer. If you plan to store highly confidential information on the file server, the best means of securing that information is isolating the server computer in a lockable room. If no such room is available, you should consider installing a security software package on the server computer or removing the monitor and keyboard from the server computer once you've set up file service. For instructions, see Appendix A. ▲

The instructions that follow assume you have chosen to use a new computer and new hard disks for the server. If you have chosen a computer that is already in use, some of the steps will not apply to your situation.

- △ **Important** The server computer must have at least 4 megabytes of RAM to run all AppleShare services simultaneously; it must be running system software version 7.0 or later. To determine how much RAM your computer has, choose About this Macintosh from the Apple (🍏) menu. △

If you are upgrading from AppleShare 2.0, and you are not adding a new hard disk or CD-ROM drive to your server computer, skip now to “Installing AppleShare Server 3.0 Software” later in this chapter.

1 Set up the server computer.

Follow the unpacking and setup instructions that came with the computer.

2 If necessary, install a network communications card.

You may need to do this if you plan to connect your Macintosh to an Ethernet or Token Ring network. Follow the directions in the user’s guide supplied with the card.

3 Connect all hard disks and CD-ROM drives you plan to use.

4 Initialize hard disks as necessary.

▲ **Warning** Initializing the hard disk will erase its contents. If your hard disk already contains any information you want to keep, you do not need to initialize the hard disk to install AppleShare Server 3.0 software. ▲

Use these guidelines if you are uncertain whether you should initialize the hard disk:

- If you are upgrading from AppleShare 2.0, you won’t need to initialize your hard disk.
- If you are not upgrading from AppleShare 2.0, but you have programs and documents on the hard disk that you want to preserve, you should *not* initialize your hard disk; doing so will erase the contents of the disk.
- If you are preparing a brand-new Macintosh computer with an internal hard disk, the hard disk was probably initialized at the factory. See the documentation that came with your new Macintosh computer to determine if the hard disk has already been initialized. You *will* need to initialize all new *external* hard disks.

5 Name the hard disks.

Be sure to follow the naming conventions in “Naming Hard Disks,” later in this chapter.

6 Install system software on the hard disk you will use as the startup volume.

Follow the instructions that came with your Macintosh computer or the documentation you received with your System 7 upgrade.

△ **Important** AppleShare 3.0 requires that you run system software version 7.0 or later. △

7 If you are using a CD-ROM drive, install the CD-ROM driver.

Follow the directions in the CD-ROM drive owner’s guide.

8 Connect the server computer to your AppleTalk network.

Follow the directions in the user’s guide for your cable system.

9 Check to make sure the AppleTalk option is on.

The AppleTalk Active button should be selected. If it isn’t, choose the Chooser from the Apple (🍏) menu. Click the AppleTalk Active button in the lower-right corner of the Chooser window.

Choosing a zone for the server

Your network may have **zones**, which are groupings of devices arranged according to usage or geography or any other system that makes sense for your organization. Your network administrator is responsible for setting up zones. If your network does have zones, you should choose the zone you want the server to appear in. If you don't choose a zone, the server remains in its current zone.

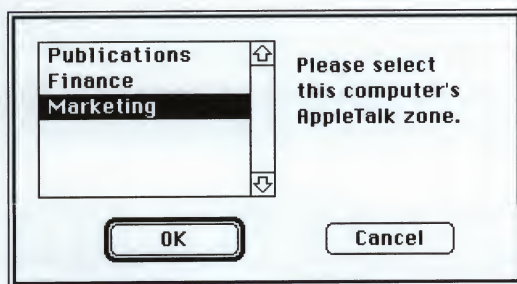
△ **Important** This section is not relevant if your network is a LocalTalk network. All devices on a LocalTalk network are in the same zone, and you won't be able to select a different zone for the server. Also, if the server is one of several on a large network or internet, a zone may have already been determined. If necessary, check with the administrator of your network system to make sure. △

1 Open the Network control panel.

If you need more information about control panels, see the documentation that came with your computer or your System 7 documentation.

2 Select either the EtherTalk or TokenTalk icon.

You see a list of available zones, with the current zone highlighted:



- 3 Select the appropriate zone name.
- 4 Click OK and close the control panel.

The server is now in the selected zone.

Naming hard disks

All hard disks you use with your server computer must be named. If the disk used by the AppleShare File Server is shared in its entirety, the disk name also serves as the volume name that users will see in the Chooser window. The following guidelines will ensure that you choose names that will work efficiently with the AppleShare File Server:

- The disk name can be a maximum of 27 characters long but cannot contain any colons or begin with a period.
- Any shared disk that will be accessed by Apple II users must have a valid ProDOS name: It must be a maximum of 15 characters long, begin with a letter, and contain no spaces.

In practice, you should try to keep Apple II names short. To open a file, Apple II users must enter a **pathname** consisting of the volume name followed by the names of any folders a user has to open to get to a file, followed by the name of the file itself. These pathnames can be no longer than 64 characters.

You can name a hard disk when you initialize it. You can also change a hard disk's name by selecting its name on the desktop and typing in a new one. You cannot rename a CD-ROM disc.

If a hard disk or CD-ROM name is invalid for ProDOS, Apple II users can't access the disk in its entirety, although they can still access folder-based volumes that have valid ProDOS names, if they are made available through sharing those volumes.

- △ **Important** You have to quit the file server program before renaming a disk that is being used as a volume on the server. Folders, however, can be renamed without quitting the file server program. △

Installing AppleShare Server 3.0 software

Once you've set up your server computer and connected it to an AppleTalk network, you are ready to install the AppleShare software. If you haven't done so already, be sure to install system software version 7.0 (or later) before going on. The AppleShare 3.0 software requires that System 7 be installed on the server computer.

Before you begin, you should have all of the floppy disks provided with AppleShare 3.0 handy; you may need all of them to complete the installation. (The disks are described in the "Software Requirements" section of the preface, "About This Guide.")

If you are upgrading from AppleShare 2.0, or if you've used Macintosh file sharing on the server computer, you needn't worry about losing your Users & Groups files. AppleShare 3.0 software will automatically modify an existing AppleShare 2.0 or Macintosh file sharing Users & Groups file for use with AppleShare 3.0.

1 Insert the *AppleShare File Server* disk into a floppy disk drive on the server computer.

2 Start the Installer.

Double-click the disk icon, and then double-click the Installer icon in the disk's directory window. You see the Installer screen.

3 Click OK.

You see this window:



4 Click Install or Customize.

If you're going to use both the print and the file server, clicking Install is the most convenient method. If you plan to use only one or the other, use the Customize button. (Even if you plan to use both services, you may want to use Customize to eliminate those features you're confident you won't need.)

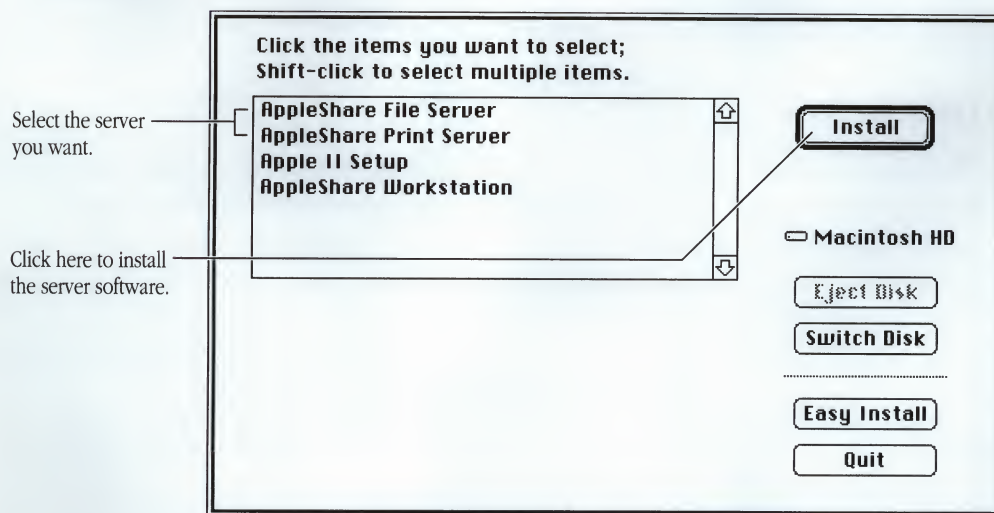
The Easy Install option provides you with the following files:

- AppleShare File Server
- AppleShare Print Server
- AppleShare Admin
- AppleShare Workstation

Clicking Customize lets you choose any or all of these files and to skip the ones you don't need.

If you clicked the Install button, skip to Step 7.

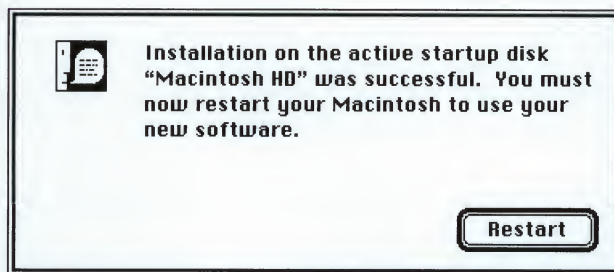
- 5 Click the first item you wish to install; Shift-click to select additional items.



- 6 Click Install.

- 7 Insert the appropriate disks as directed by messages that appear on your screen.

After installation is complete, you see this dialog box:



8 **Click Restart.**

The computer ejects the installation disk, the Macintosh restarts, and you're back at the Finder, ready to set up file or print service.

9 **Check the clock.**

The server computer's internal clock is the source for all time entries in AppleShare 3.0 records. Before you set up file or print services, you should check that the computer's clock is accurate. You can check and adjust the clock with either the Alarm Clock desk accessory or with the General Controls panel.

What's next?

Now that you've successfully installed the AppleShare 3.0 software, what you do next depends on whether you installed both the file and print server programs or just one:

- If you plan to provide file service, go directly to Chapter 3, "Setting Up File Service."
- If you plan to provide only print service, go directly to Chapter 4, "Setting Up Print Service."



3 Setting Up File Service

In Chapter 2, you installed the AppleShare Server 3.0 software. In this chapter, you'll learn how to start up the AppleShare Admin program, create user and group accounts, and assign access privileges for the volumes you plan to share through the file server. You'll also learn how to start up the AppleShare 3.0 File Server program. Finally, you'll learn what information users might need to know before they begin using file service.

What to do first

You're about to start up the AppleShare Admin application program. The procedure for doing so varies somewhat depending on your specific situation:

- If you are upgrading from AppleShare 2.0, go directly to the next section, "Upgrading to AppleShare 3.0."
- If you have used Macintosh file sharing on the server computer prior to installing AppleShare 3.0, go directly to the next section, "Upgrading to AppleShare 3.0."
- If you are upgrading from AppleShare 2.0 *and* have used Macintosh file sharing on the server computer prior to installing AppleShare 3.0, go directly to the next section, "Upgrading to AppleShare 3.0."
- If you are not upgrading from AppleShare 2.0, nor have ever used Macintosh file sharing, skip the next section and go to "Using the AppleShare Admin Program."

Upgrading to AppleShare 3.0

Follow these steps to upgrade from AppleShare 2.0 or Macintosh file sharing to AppleShare 3.0:

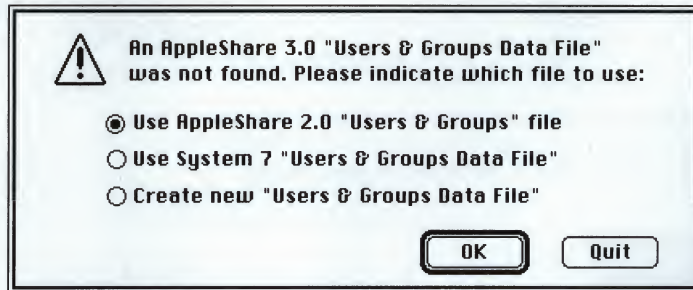
1 **Open the System Folder.**

The AppleShare Admin program is placed in the System Folder when it is first installed. You can keep it there or move it anywhere else on the hard disk.

2 **Double-click the AppleShare Admin icon.**



In a moment, you see a dialog box:

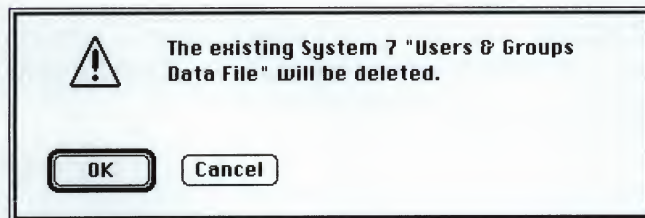


The **Users & Groups Data File** is a database of users, user passwords, and user groups. It's this information that AppleShare 3.0 draws on to maintain file server security. If you are upgrading from AppleShare 2.0, or if you have used Macintosh file sharing, you already have a valid Users & Groups Data File. Because there can be only one valid Users & Groups Data File on your server computer's startup disk, you need to indicate whether you want the Admin program to update the existing file for use with AppleShare 3.0 or to create a new one. *Updating the file will let you maintain all the user and group accounts and access privileges you set with AppleShare 2.0 or Macintosh file sharing.*

The number of options presented in the dialog box depends on whether you are upgrading from AppleShare 2.0, have used Macintosh file sharing, or both.

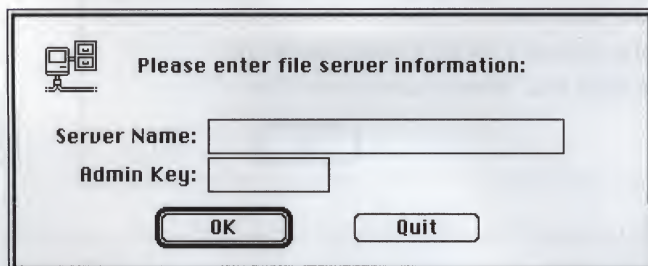
3 Click the button next to the option you want and click OK.

You see another dialog box asking you to confirm your choice:



4 Click Ok.

In a moment, you see a dialog box asking you to name the file server and enter an Admin key:



The dialog box has a title bar with a computer icon and the text "Please enter file server information:". Inside, there are two labels with corresponding input fields: "Server Name:" followed by a long text box, and "Admin Key:" followed by a shorter text box. At the bottom, there are two buttons: "OK" and "Quit".

5 Name the file server.

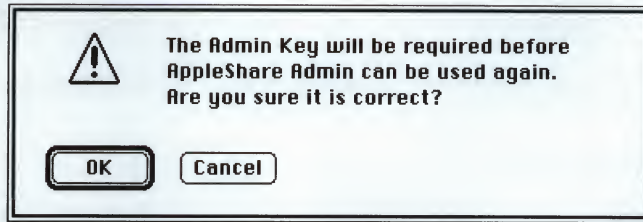
The name you give the file server is the name users will see in the Chooser when they log on to the file server. The file server name can be up to 31 characters long. It does not have to be a ProDOS name, even if Apple II users will be logging on to the file server.

6 Enter an Admin key.

The **Admin key** “unlocks” the AppleShare Admin program. Its purpose is to help prevent unauthorized use of the Admin program. The key can be any combination of up to 8 characters. The Admin key records both uppercase and lowercase letters, so be sure to type the key *exactly* as you want it.

△ **Important** Remember your Admin key! Record it somewhere if necessary. Replacing a forgotten Admin key is difficult and very time consuming. (See Chapter 8, “Troubleshooting,” for instructions on replacing the Admin key.) △

After you enter the key, you see this dialog box:



7 Click OK or Cancel.

This is the last time you'll see the Admin key on the screen, so be sure to make a note of it. Click OK to confirm the Admin key. Click Cancel if you want to change it. After you click OK, the AppleShare Admin program completes its startup procedure.

What you do next depends on your needs:

- If you don't need to add any new users or groups, nor alter the access privileges you used before, go to the "Starting Up the AppleShare 3.0 File Server Program" section later in this chapter.
- If you need to create new user accounts, go to the "Registering Users" section later in this chapter.
- If you need to create new groups, go to the "Setting Up and Adding Members to Groups" section later in this chapter.
- If you want to change the access privileges you originally set with either AppleShare 2.0 or Macintosh file sharing, go directly to the "Sharing Volumes and Folders" section later in this chapter.

Starting up the AppleShare 3.0 Admin program

Follow these steps to start up the AppleShare Admin application program:

1 **Open the System Folder.**

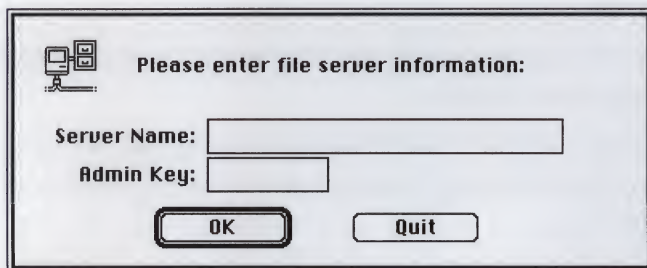
The AppleShare Admin program is placed in the System Folder when it is first installed. You can keep it there or move it anywhere else on the hard disk.

2 **Double-click the AppleShare Admin icon.**



AppleShare Admin

In a moment, you see a dialog box asking you to name the file server and enter an Admin key:

A dialog box titled "Please enter file server information:" with a small icon of a computer monitor and a document. It contains two text input fields: "Server Name:" and "Admin Key:". Below the fields are two buttons: "OK" and "Quit".

Please enter file server information:

Server Name:

Admin Key:

OK **Quit**

3 Name the file server.

The name you give the file server is the name users will see in the Chooser when they log on to the file server. The name you choose should help describe the purpose of the file server or indicate which group shares it—for instance, “Accounting” or “Human Resources.”

The file server name can be up to 31 characters long. It does not have to be a ProDOS name, even if Apple II users will be logging on to the file server.

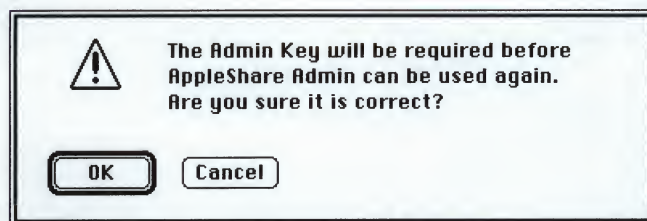
4 Enter an Admin key.

The **Admin key** “unlocks” the AppleShare Admin program. Its purpose is to help prevent unauthorized use of the Admin program.

The key can be any combination of up to 8 characters. The Admin key records both upper-case and lowercase letters, so be sure to type the key *exactly* as you want it.

- △ **Important** Remember your Admin key! Record it somewhere if necessary. Replacing a forgotten Admin key is difficult and very time consuming. (See Chapter 8, “Troubleshooting,” for instructions on replacing the Admin key.) △

After you enter the Admin key, you see this dialog box:



5 Click OK or Cancel.

This is the last time you'll see the Admin key on the screen, so be sure to make a note of it. Click OK to confirm the Admin key. Click Cancel if you want to change it.

The file server name and Admin key are stored in a special file created and maintained by the Admin program. It's called the **Users & Groups Data File**; it's kept in your startup disk's Preferences folder. As you progress through the steps in this chapter—creating user and group accounts, assigning passwords and access privileges, and so on—you are adding information to the Users & Groups Data File.

After you click OK, the Admin program continues the startup process, preparing the startup disk and the other hard disks connected to your computer. However, you can also deny access to these other disks through the Admin program.

In a moment you see a message that you must enter an administrator name and password.

6 Click OK.

After you click OK, you see a user information window. You'll work with the same type of box when you create users.

The screenshot shows a window titled "User: Administrator". It contains a small icon of a person's head and shoulders. Below the icon is a "Name:" label followed by a text box containing "Administrator". To the left of this text box is an annotation: "Enter a name here." Below the name field is a "Password:" label followed by a text box. To the left of this text box is an annotation: "Enter a password here." To the right of the password field are four checkboxes: "Login Enabled" (checked), "Change Password Enabled" (checked), "All Privileges Enabled" (checked), and "Require New Password on Next Login" (unchecked). Below these checkboxes is a "Program Linking Enabled" checkbox, which is also unchecked. Below the checkboxes are two buttons: "Reset" and "Save". To the left of the "Save" button is an annotation: "Click here to accept the entries." Below the buttons is a "Primary Group:" label followed by a text box. Below that is a "Groups:" label followed by a list box.

7 **Enter an administrator name in the Name box.**

This step is optional. Many people prefer to leave the name as “Administrator.” You can do so, or you can enter any name you wish.

8 **Enter a password.**

When you log on to the file server from a workstation computer, you’re prompted for this password before you can connect. The password can be any combination of up to eight characters.

9 **Verify your AppleShare options.**

Most of the option boxes—Login Enabled, Change Password Enabled, and All Privileges Enabled—are checked. These options are explained in the section “Registering Users” later in this chapter. As the server administrator, you’ll almost certainly want to have these options enabled.

10 **Click Save.**

The password is replaced by dots. You’ll never see it again, but you can change it at any time by selecting the dots, entering a new password, and clicking Save.

△ **Important** Don’t use the same password as the Admin key. Keeping the two distinct provides an added level of administrator security. △

AppleShare Admin is now ready for use. In the sections that follow, you’ll learn how to establish file server security, register users, create groups, choose a zone for the file server, and, when you’re ready, begin file server operation.

Establishing file server security

AppleShare file server security works through a combination of interlocking safeguards: sharing, user registration, passwords, group membership, ownership, and access privileges. You use **sharing** to determine which volumes users see when they connect to the server. You have the choice of restricting server access to specific **registered users**—users with a **user name** included in the Users & Groups Data File. You can assign each registered user a **password** that must be entered each time he or she connects. You can include registered users in one or more **groups**. As administrator, you are by default the **owner** of all volumes (and of all folders you create within each volume), but you can transfer ownership if you wish. Ownership of folders is assigned by default to the user who creates them. You set **access privileges** to determine what the owner, members of a group, designated individual users, and guests can see and do once they have gained access to a volume.

You can set access privileges for the folders you create within a volume as well as for the volume itself. Users do the same for the folders they create from their own workstations. These various security methods are described in the next few sections.

- ▲ **Warning** The AppleShare software provides substantial and effective security features to prevent unauthorized access over a network. But access privileges cannot substitute for the security you gain from physically isolating the server computer. If you plan to store highly confidential information on the file server, the best means of securing that information is isolating the server computer in a lockable room. If no such room is available, you should consider installing a security software package on the server computer or removing the monitor and keyboard from the server computer once you've set up file service. For instructions, see Appendix A. ▲

Sharing

Sharing is the most basic of the AppleShare security features. If you don't share a volume, users won't see it at all. You can set up access privileges for the volume, as discussed later in this chapter, and assign those access privileges to whomever you want. But unless you specifically share the volume, those privileges remain inactive.

- △ **Important** The term “volume” in AppleShare 3.0 means a shared entity available on the server and listed in the Chooser when users log on to the file server. A volume may be an entire hard disk or CD, or it may be a single folder on a hard disk or CD. This is a change from earlier versions of AppleShare, in which a volume was always an entire hard disk or CD. In earlier versions, the terms “volume” and “hard disk” could be used interchangeably. To avoid confusion, the two terms are now kept distinct.

From a user's point of view, volumes in AppleShare 3.0 look exactly like volumes in previous versions. It makes no difference whatsoever to a user whether the shared entity is an entire disk or a folder contained on the disk. △

Once you've shared a disk or a folder, you automatically share all the folders within it, unless you then set appropriate access privileges to specific folders within the shared disk or folder. If you share your entire startup disk, for example, all of the folders it contains (except for the System Folder) will be visible when a user opens the volume list window.

If you are going to provide Apple II network startup, you must share your entire startup disk. For more information, see Chapter 5, “Apple II Network Startup.”

Guests and registered users

Anyone on the network can be a **guest**. Access privileges permitting, guests can open folders, read files, and start up application programs. They can create folders, and they can add files to them or to owned folders that will accept their work.

A registered user is anyone who has been assigned a user name and (optionally) a password. Like guests, registered users are limited by the access privileges you or other users have assigned. Unlike guests, registered users can take advantage of access privileges themselves to protect their own work.

Users and groups

You can assign registered users to **groups**, which can be set up in any way that is appropriate to your environment. The access privileges you set up for a volume or folder are extended to a single user or to a group. In the latter case, all users belonging to that group can take advantage of the access privileges.

- △ **Important** AppleShare 3.0 permits the owner of a volume or folder to assign access privileges either to a group or to a single registered user. In the latter case, there is no need to create a “group of one.” You can work with a single user exactly like a group. If you want to assign privileges to more than one user, though, but not to everyone, you must still do so by creating a group with the appropriate membership. △

Access privileges

Access privileges are the privileges you give to or withhold from users for opening and making changes to a shared disk or folder. You first decide what can be done and then choose who you’ll permit to do it. There are three privilege categories:

- **See Folders**—the privilege to open a folder and see the other folders (if any) it contains.
- **See Files**—the privilege to see, open, and copy documents and programs within a folder.
- **Make Changes**—the privilege to make changes to the contents of a folder, including creating, deleting, moving, and modifying the files and folders within it.

There are also three user categories:

- **Owner**—either the creator of the folder or any registered user or group to whom the first owner assigns ownership. Owners are able to change access privileges to the shared items they own whenever they want.
- **Users**—a single user, or a specified group of registered users. Users cannot change access privileges to shared items.
- **Everyone**—any user with access to the file server, whether logged on as a registered user or as a guest.

You can assign privileges separately to an enclosing folder and to the folders it contains, so that you can control access very precisely. You *cannot* set access privileges for files. To limit access to particular files, you must create a folder, set the access privileges for the folder, and then place the files in that folder.

Superusers

As the administrator, you have the ability to override the access privileges users set and to modify those you have set yourself. You can do this from any workstation, as well as from the server computer. You can also see the contents of all hard disks and CD-ROMs, not just those portions that are shared. Because you can exercise this power from a workstation, you're a **superuser**. If you wish, you can assign this ability to one or more additional users.

Superuser status is controlled by the All Privileges Enabled option. You set this option when you create a user, as discussed in the next section, “Registering Users.” This option is on by default for you as the administrator. It’s initially off for all other users. Sometimes, though, you may need to share your administrative responsibilities, and the superuser option lets you do that.

- ▲ **Warning** Superuser privileges should not be assigned casually. A superuser has access privileges that can pose a serious security risk if not assigned carefully. ▲

Registering users

Registering users means entering a list of users into the Users & Groups Data File and, optionally, assigning each user a password. You do this using the Create User command in AppleShare Admin.

1 Start up the AppleShare Admin program, if it isn't already on.

Double-click the AppleShare Admin icon to start the program.

2 Choose Create User from the Users menu.

A New User window appears:

New User

Name:

Password: ☐ Login Enabled ☒

☒ Change Password Enabled

☐ All Privileges Enabled

☐ Require New Password on Next Login

☐ Program Linking Enabled

Primary Group:

Groups:

Enter the user's name here.

Enter a password here.

Do not enable these features unless you have a specific reason to do so.

Click here to accept the entries.

3 Enter the user's name.

A name can be up to 31 characters long. In general, you should plan to enter all names in the same way. For example, Jane, Jane Smith, and Smith, Jane are all equally good, but if you mix the patterns it's easier to become confused.

4 **Enter a password.**

Press the Tab key to move to the Password box, or just click in it. A password can be up to eight characters long. Users must enter their passwords exactly as you have set them up. (Uppercase and lowercase letters must match. The password Grtef267, for example, is not the same as grtef267 or GrteF267.)

You can stipulate a minimum password length in the File Server Preferences window. To view the window, choose File Server Preferences from the Admin program's Server menu.

△ **Important** Length is important to password security but so is making a password difficult to guess. Avoid proper names (especially the user's own or that of someone in his or her family) and ordinary dictionary words. △

5 **Select the AppleShare options you want.**

An X should appear in the boxes for the options you've selected. To deselect an option, click the checkbox so the X does not appear.

The New User window lets you assign options to each user: Login Enabled, Change Password Enabled, All Privileges Enabled, Require New Password on Next Login, and Program Linking Enabled.

- Login Enabled lets a user connect to the server. Disabling this option disallows access to the server for that particular user, while still offering file service for others.
- Change Password Enabled allows users to change passwords from their workstations.
- All Privileges Enabled, as discussed earlier in the section "Superusers," turns a user into a superuser.
- Require New Password on Next Login requires users to change their password the next time they log on to the file server.

- Program Linking Enabled allows a user to create a link between a program on the server and his or her computer.
- If other networking services are installed on the server computer, the list of options may be longer.

Login Enabled and Change Password Enabled are on by default. All users must have the Login Enabled privilege if they are to log on to the file server. You would only turn it off if for some reason you wished to exclude a user without deleting his or her name from the User List.

Change Password Enabled is an important security feature of AppleShare 3.0. Many administrators choose to advise or require users to change passwords often. On the other hand, some administrators want complete control over users' passwords and prefer to disable this option.

All Privileges Enabled, as discussed earlier in "Superusers," should be allowed only rarely. This option is on by default for you as the administrator. It's off for all other users.

Require New Password on Next Login is off by default. It can be useful when setting up accounts: You can assign something simple as a password—like the user's initials or first name—but require that they change the password to something more effective when they log on. After the user has provided a new password, the Admin program automatically turns this setting off.

△ **Important** Do not use this feature for Apple II or IBM PC users. △

Program Linking Enabled is off by default for you as the administrator and for all other users. Be very careful in assigning this privilege. Users with program linking enabled have the capability of gaining access to data on the file server that you have not necessarily shared.

- ▲ **Warning** Program linking poses a potential security risk if you enable it. Unless you have a specific reason to do so, do not enable program linking. ▲

For more information, see the manuals that came with your computer or your System 7 documentation.

6 Click **Save**.

The screenshot shows a classic Mac OS dialog box titled "New User". It has a standard Mac OS window frame with a title bar, a close button, and a scroll bar. Inside the window, there's a small icon of a person in a square box. To the right of the icon is a text field labeled "Name:" containing the text "Royce Walthrop". Below that is a text field labeled "Password:" containing the text "Cogman". To the right of the password field are four checkboxes: "Login Enabled" (checked), "Change Password Enabled" (checked), "All Privileges Enabled" (unchecked), and "Require New Password on Next Login" (unchecked). Below these is a checkbox labeled "Program Linking Enabled" which is also unchecked. At the bottom of the main content area are two buttons: "Revert" and "Save". Below the buttons, there's a section for group selection. It starts with a label "Primary Group:" followed by a text field. Below that is a label "Groups:" followed by a list box that is currently empty.

AppleShare saves the user's name and password in the Users & Groups Data File. The name appears in the window's title bar and is also listed alphabetically in the User List.

- △ **Important** When you click **Save**, the password changes to a series of dots—one dot for each letter—and you never see it again. If a problem occurs, you can always change the password, as described in the next section. △

Changing names and passwords

You can change a user's name and password at any time. Be sure to tell users you have done so, or they won't be able to log on to the server. Users can also change their passwords from their own workstations. It isn't usually a problem if they don't tell you what the new password is, because AppleShare keeps track of the change.

You don't have to change the password and name at the same time; the following procedure works for either or both.

◆ **Note** The administrator and users generally change passwords for different reasons. The most common reason for an administrator to change a password is because a user has forgotten it and can't log on to the server. The most common reason for a user to change his or her password is because doing so is suggested or required for security. You'll probably not want to change everyone's password on a regular basis, as it's much easier to have users do this for themselves. ◆

- 1 Open the user information window.**

Double-click the user's name in the User List.

- 2 Select the current name in the user information window and type in a new one.**

- 3 Select the current password in the user information window and type in a new one.**

You won't actually see the current password—just the dots that represent it. You'll see the new password until you click Save, when it too changes to dots.

- 4 Click Save.**

AppleShare saves the new information.

Allowing or denying guest access

As explained in the “Guests and Registered Users” section earlier in this chapter, if you allow guest access, anyone with a computer on your network can connect to the server. If you deny guest access, only registered users can connect. You control this option with the <Any User> information window.

- △ **Important** If you’re upgrading from AppleShare 2.0, or if you’ve used Macintosh file sharing, guest access is automatically set to whatever settings you chose with version 2.0. If you’re starting with AppleShare 3.0, guest access is automatically disallowed but can be turned on. △

Follow these steps to allow guest access:

- 1 **Choose User List from the Users menu.**
- 2 **Double-click the <Any User> entry.**

You see the <Any User> information window:

User: <Any User>

Name: <Any User>

Password:

Login Enabled ☐

Change Password Enabled ☐

All Privileges Enabled ☐

Require New Password on Next Login ☐

Program Linking Enabled ☐

Revert Save

Primary Group:

Groups:

Click here to allow guest access.

Click here to save the setting.

3 Click the Login Enabled checkbox to place an X in it.

Selecting Login Enabled allows guest access; to turn off guest access, click the Login Enabled checkbox to remove the X. Options that do not apply to a guest are dimmed.

4 Click Save.

Deleting users

On occasion, you may need to delete a user from the network.

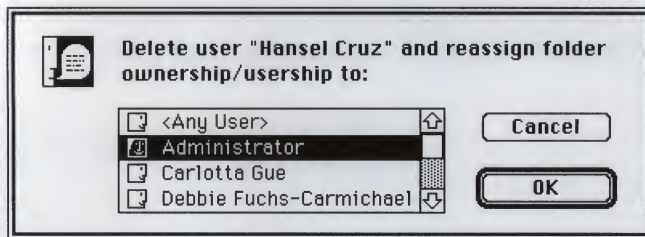
1 Choose User List from the Users menu.

2 Select the user or users you wish to delete.

If you want to delete users whose names appear in order in the User List, you can drag through their names. If you want to delete users from different sections of the list, you can Shift-click to select their names.

3 Choose Delete User from the User menu.

You see this dialog box:



4 Assign folder ownership to another user or group.

If you're deleting several users at the same time, you have to assign all of their folders to the same new owner. As the administrator, your name is always chosen by default, but you can change that. Choosing <Any User> makes the folders generally available. Any registered user can then claim ownership.

5 Click OK.

The users are removed from the User List and the ownership of their folders is transferred.

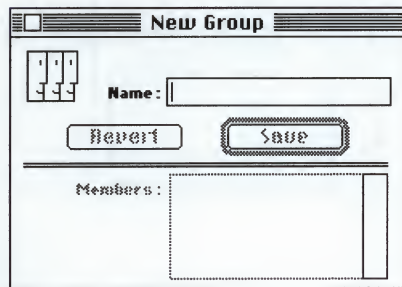
Setting up and adding members to groups

Usually groups are set up to reflect the actual divisions and working relationships of an organization, although you can choose another arrangement, such as physical location. Your arrangement can be complex or simple. There is no right or wrong way; it's simply a matter of matching group structure to your particular needs, and, if necessary, changing the structure to adapt to changes in the organization.

Steps 1 through 3 in the following instructions show you how to create a group. Steps 4 and 5 can be used either to assign users to this new group or to add members to an existing group.

1 Choose Create Group from the Groups menu.

A New Group window appears:



2 Type in a name.

The name can be up to 31 characters long.

3 Click Save.

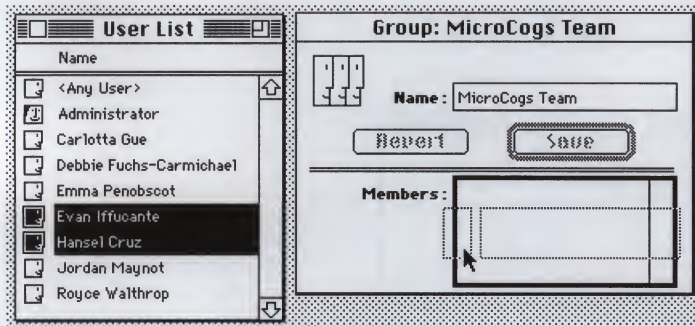
The group is added to the Group List window.

- 4 Choose User List from the Users menu, then select the users you want to assign to this group.

Select a name (not the icon) by clicking it in the User List window. Select additional sequential names by dragging. Shift-click to select nonsequential names.

- 5 Drag the icons representing the users you selected to the Members box in the group window.

Position the pointer on any user icon (not the name), then press and hold down the mouse button. Drag the icons into the Members box until the outline of the box appears bold, then release the mouse button.



◆ **Note** You can work this process in reverse, by dragging a group icon—or a set of group icons—over a name in the User List. The user is automatically added to the group or groups. Or you can add users to a group by dragging one or more selected users' icons from the User List to the group icon in the Group List. ◆

Revoking group membership and deleting groups

Workgroups often change with time, so a user's membership in a group may become inappropriate, or the group itself may have fulfilled its mission. When this happens, you can revoke group memberships or delete the group itself.

Revoking membership

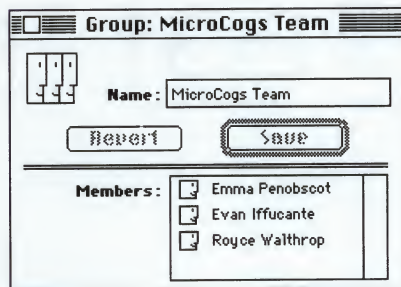
Revoking membership in a group has no effect on membership in other groups, as memberships are assigned separately.

1 Select the group in the Group List.

If necessary, choose Group List from the Groups menu to see the Group List.

2 Choose Group Info from the Groups menu.

Or just double-click the group name. The group window opens, with the members listed in the Members box.



- 3 Select the member or members you want to remove from the group.
- 4 Choose **Revoke Membership** from the **Groups** menu.

Deleting groups

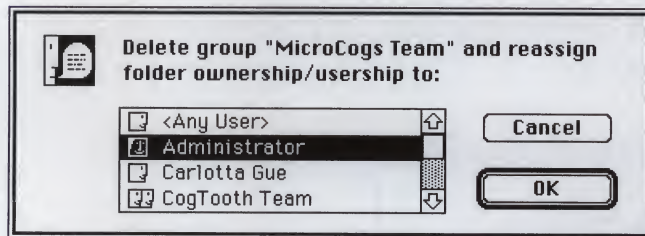
You extend access privileges to groups, so when you delete a group any folders or volumes it was using may be accessible only to their owners until another group (or individual user) is assigned to them.

- 1 **Select the group in the Group List.**

If necessary, choose **Group List** from the **Groups** menu to see the **Group List**.

- 2 **Choose **Delete Group** from the **Groups** menu.**

A dialog box appears asking you to reassign folder ownership of the group you're deleting:



3 Assign folder ownership to another group or user.

Select the name of the user or group you're reassigning ownership to.

If you're deleting several groups at the same time, you have to reassign all of their folders to the same new owner. As the administrator, your name is always chosen by default, but you can change that. Choosing <Any User> makes the folders generally available. Any registered user can then claim ownership.

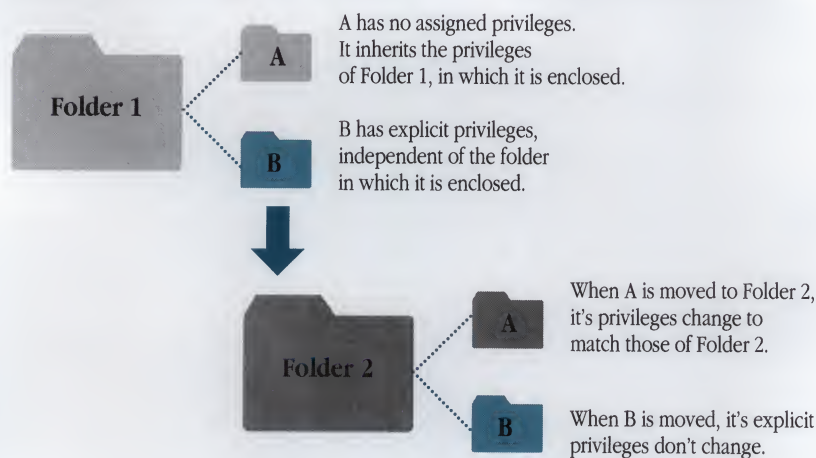
4 Click OK.

The groups are removed from the Group List and the ownership of their folders is transferred. This may take some time, as the program looks at each folder and shared disk to see if the group has access privileges for it, deleting the group from each record in turn.

Sharing volumes and folders

You can set access privileges for all volumes and the folders they contain. If you don't assign access privileges, AppleShare assigns default (preset) privileges.

The default access privileges for a volume are restricted to the administrator only. The administrator can see folders, see files, and make changes. No one else can do anything. The default privileges for a folder are different from those for a volume. When you create a new folder, if you don't set explicit access privileges for it, the folder automatically takes on the User and Everyone privileges that are set for the folder it's contained in, or for the volume if it's on the volume level. These privileges change if you move the folder into another folder with different privileges. The following figure shows the process in action.



Privileges that change when you move a folder into another folder are called *inherited privileges*. You override these inherited privileges by assigning *explicit privileges*. Explicit privileges remain with the folder regardless of where you drag it. Note that ownership and ownership privileges don't change unless you change them. You can't inadvertently give away ownership.

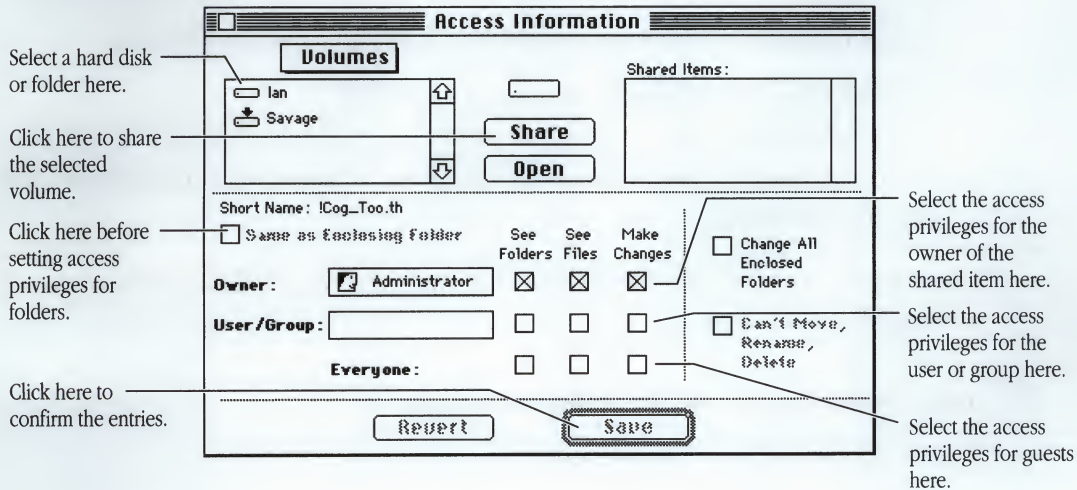
Follow these steps to share volumes and folders:

1 Start up the AppleShare Admin program.

Double-click the AppleShare Admin icon, if necessary.

2 Choose Access Information from the Privileges menu.

The Access Information window appears:



3 Select a volume or a folder from within a volume from the Volumes list.

You may have to scroll through the list to find the volume or folder you want.

4 Click Share to share the volume or folder.

The volume or folder appears in the Shared Items box.

5 For folders, click the Same as Enclosing Folder option off.

6 **Enter the privileges you want to apply.**

Click the privilege boxes. You can allow the owner, a group of users, or everyone to see files, see folders, and make changes, or you can limit any of these privileges as you choose. An X in a box means the privilege is on; an empty box means the privilege is off.

7 **Assign an owner to the volume or folder.**

The administrator is the default owner of all volumes and of all folders you have created within a volume. You can change ownership if you want to, using the following procedure:

- a. Choose User List from the Users menu or Group List from the Groups menu.
- b. Select the user or group you're assigning ownership to.
You can choose one user or one group.
- c. Select the *icon* of that user or group and drag it to the Owner box in the Access Information window.

The new name appears in the Owner box. The owner receives all of the owner access privileges you have designated.

8 **Assign a user or group to the volume or folder.**

You can choose any group or any individual.

- a. Choose User List from the Users menu.
- b. Choose Group List from the Groups menu.
The User and Group Lists appear.
- c. Select the user or group you're assigning privileges to.
You can choose one user or one group.
- d. Select the *icon* of that user or group and drag it to the User/Group box in the Access Information window.

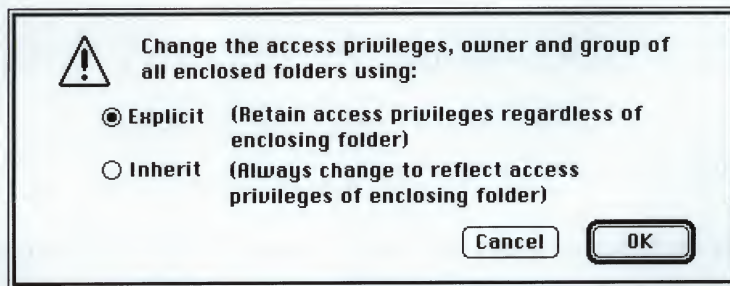
The new name appears in the User/Group box. The group or individual user receives all of the user access privileges you have designated. All other users and guests are restricted to the privileges designated for Everyone.

- 9 **If you want to apply the same access privileges to all enclosed folders, click the Change All Enclosed Folders checkbox to place an X in it.**

This optional step applies the same access privileges to all enclosed folders.

- 10 **Click Save.**

If you clicked Change All Enclosed Folders in step 9, you see this dialog box:



- 11 **Click the button representing the choice you want and click OK.**

Changing owners or users

You can change the owner or the users of a folder or volume at any time.

- 1 Select the new user or owner.**
Select from the User List or Group List.
- 2 Drag the icon of the new owner or the user to the Owner or User/Group box in the Access Information window.**

The new information replaces the old.

Removing users or groups

You may wish to remove the user or group you have assigned privileges to, without naming a replacement.

- 1 Select the group or user you want to remove in the User/Group box.**
- 2 Choose Clear User/Group from the Volumes menu.**

The name in the User/Group box disappears.

About the Everyone privilege

If guest access is allowed, the Everyone privileges you extend apply to guests and to all registered users. (Registered users can have User/Group or Owner privileges and Everyone privileges.) If guest access is disallowed, Everyone privileges apply to all registered users. Thus it's easy to make a volume or folder accessible to all registered users and to no one else. You simply disallow guest access as described in "Allowing or Denying Guest Access" earlier in this chapter, and assign the privileges you want to Everyone.

Starting up the AppleShare 3.0 File Server program

Now that you've set up users and groups and set access privileges for the volumes and folders you plan to share, you're ready to start up file service. You can leave the AppleShare Admin program open or you can quit the program.

- △ **Important** You don't need to run AppleShare Admin unless you have administrative work to perform. If you keep the program closed, no one can open it without the Admin key. However, for maximum data security, keep the server in a locked room. △

Follow these steps to start up the AppleShare 3.0 File Server program:

1 **Open the System Folder.**

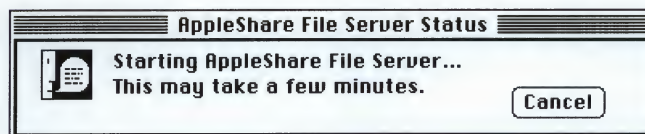
The AppleShare File Server program is placed in the System Folder when it is first installed. You can keep it there or move it anywhere else on the hard disk.

2 **Double-click the AppleShare File Server icon.**

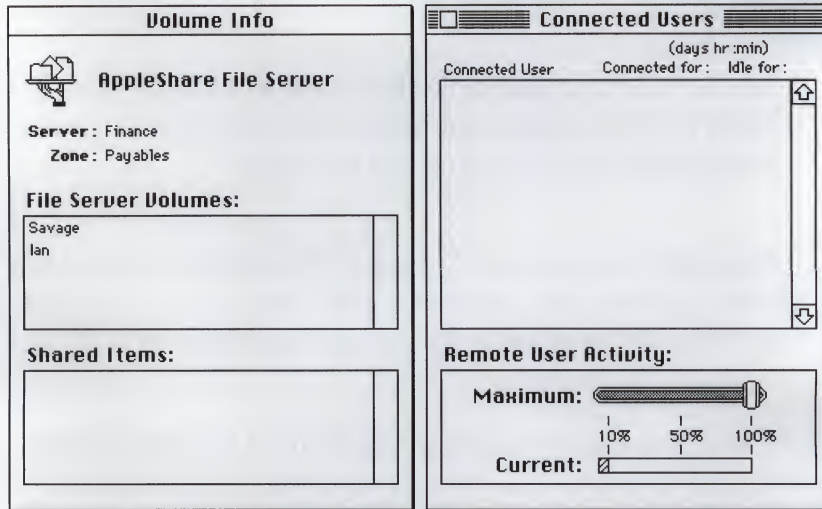


AppleShare File Server

You see a dialog box on your screen:



Then you see these two windows:



The Volume Info window displays the name of the file server, the zone it's in, and the volumes and items you shared through access privileges. The Connected Users window shows the name of any users logged on to the file server (you shouldn't have any at this point) and the Remote User Activity box, which you manipulate to modify file server responsiveness. (For more information on the Remote User Activity box, see the "Adjusting File Server Performance" section in Chapter 6.)

Getting users ready to use the file server

With the server up and running, it's time to prepare users to take advantage of it. For System 7 users, detailed information about using the file server is provided in the **Macintosh file-sharing** portions of the documentation that came with their computers or in their System 7 upgrade kit. For other users, detailed information is provided in the AppleShare user's guides for Macintosh, Apple IIe, Apple IIGS, and PC-compatible computers. The following section does not attempt to repeat or replace those guides. Instead it covers connection basics and refers you to the appropriate places for more information.

General considerations

Regardless of computer type, all users' computers need to be connected to the network correctly, with the proper cables and communication software. For Macintosh, Apple IIe, Apple IIGS, or PC computers, consult the appropriate user's guides.

As the network administrator, you'll need to field questions on access privileges, folder creation, application use, password changing, and numerous other networking subjects. Although all these topics are covered in the user's guides, people will still turn to you for answers. To make things easy on yourself, you'll probably find it useful to familiarize yourself with each of the user's guides.

Macintosh users

Macintosh users need to install AppleShare 3.0 workstation software on their startup disks. You can find this software on the *AppleShare Workstation* disk. For detailed instructions on installing it, see Appendix B, “Instructions for Installing AppleShare 3.0 on System 7 Workstations.” The procedures System 7 users must know for accessing information on the file server are described in the System 7 *Macintosh User's Guide* or in the *Macintosh Networking Reference*. System 6 users can find information on installing and using the workstation software in the *AppleShare 3.0 User's Guide*. (Procedures for installing AppleShare workstation software from a floppy disk are the same for System 6 and System 7 users.)

◆ **Note** Although System 7 users can log on to the server without installing workstation software, you should nevertheless install (or request that users install) AppleShare 3.0 workstation software on all workstation computers, including System 7 machines. Without the workstation software installed, System 7 users will not be able to receive the full range of server messages, and they will also be unable to use the extended password security features of AppleShare 3.0. ◆

Apple IIe and Apple IIgs users

The Apple IIgs comes with LocalTalk software built-in. Apple IIe users need to install the Apple II Workstation Card in order to connect to an AppleTalk network. The card is available from an authorized Apple reseller, and comes with the *Apple II Workstation Card User's Guide*, which provides instructions for installing and using the workstation software.

Apple II users can start up locally or from the network. In either case, you may need to install Apple II program software on the file server for them to use. Instructions for doing so are included in Chapter 5, "Apple II Network Startup," and in the Apple II system software guides. Instructions for using AppleShare are included both in the *Apple II Workstation Card User's Guide* and in the *AppleTalk Network User's Guide for the Apple IIGS*.

PC users

Users working with IBM PC or compatible computers need to install an AppleTalk-compatible PC expansion card. Ask your authorized Apple reseller or representative for more details.

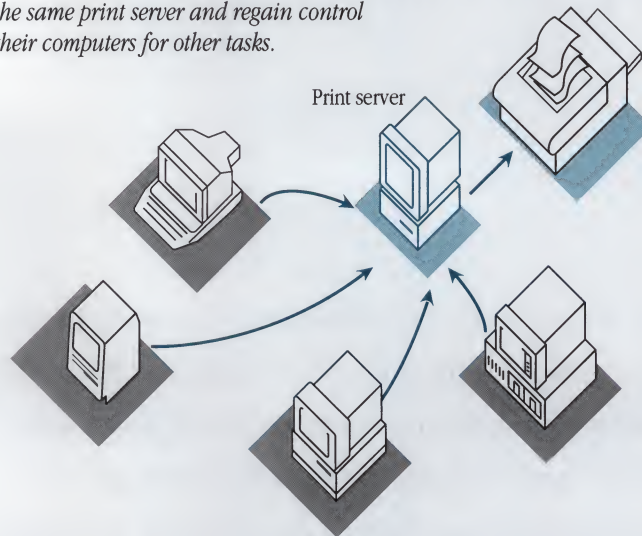
You have now done everything necessary to provide basic file service. If you want to enable network startup for some or all of your Apple II users, see Chapter 5, "Apple II Network Startup." To learn more about the control options available to you, see Chapter 6, "File Server Supervision."



4 Setting Up Print Service

The AppleShare 3.0 Print Server extends server efficiency to printing. When users choose the Print command while the print server is in operation, their documents are **spooled** to the print server computer, rather than sent directly to the printer. Spooled documents are placed in a queue and printed sequentially. Users regain the use of their computers almost immediately because printing is processed in the background by the print server.

Many users can send documents to the same print server and regain control of their computers for other tasks.



When a print server is added to the network, users experience better service, and their method of printing remains completely familiar: They just click Print as usual, and the server takes care of the rest. In addition, the print server is very easy to run. In many cases, you need do nothing beyond making sure that all printers have paper and toner, and that all users have the same printing software.

This chapter shows you how to get the print server up and running. For additional information on management options and record keeping, see Chapter 7, "Print Server Supervision." For solutions to problems that may surface occasionally, see Chapter 8, "Troubleshooting."

Upgrading from earlier versions of the AppleShare Print Server requires no special procedures. You use the same instructions as you would for setting up a new print server.

Capturing printers

Printers assigned to duty as print spoolers are said to be **captured**. A single server can capture up to five printers. (The actual limit is controlled by the amount of available RAM in the server computer.)

Follow these steps to capture a printer:

1 Start up the Print Server application program.

Double-click the AppleShare Print Server icon in the System Folder.

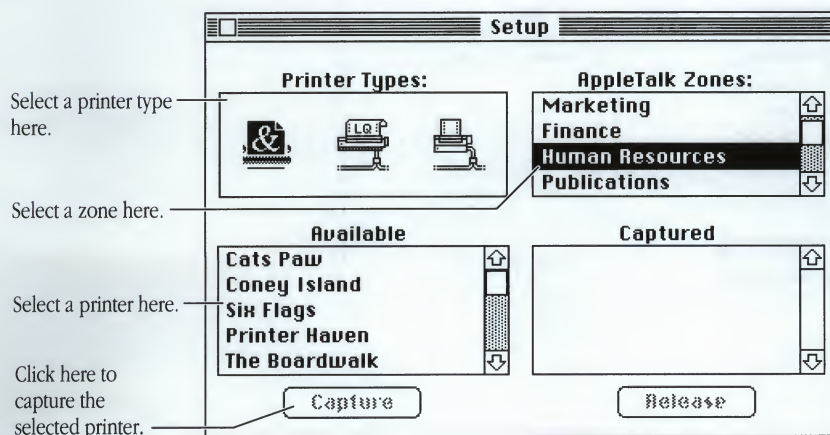


AppleShare Print Server

If you do not have any print drivers installed in your System Folder, you see a message that the program cannot complete its startup procedure. Install a print driver for each type of printer you want to use with the print server. (Use the System 7 installation disks.)

2 Choose Setup from the File menu.

You see the Setup window:



3 Select the icon for the type of printer you want to capture from the Printer Types box.

You can capture printers of various types, but only one type at a time.

4 If necessary, select the zone the printer is in.

If your network is part of a larger internet that is subdivided into zones, there is a zone list in the upper right of the window. Your home zone is automatically selected, and its printers are listed in the Available list in the lower left. If you want to select a printer from another zone, select that zone, scrolling to find it if necessary. When you select another zone, the printers in that zone appear in the Available list.

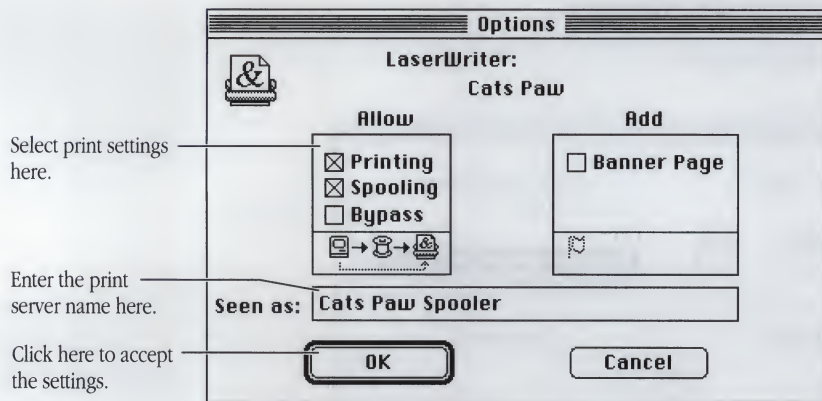
5 Select the printer you wish to capture from the Available list.

You can capture one printer at a time.

6 Click Capture.

Or you can double-click the name in the Available list.

You see the Options dialog box:



The default options are in effect when you first bring up the dialog box. These are the most common choices for print service. For information on changing them, see Chapter 7, “Print Server Supervision.”

The spooling option indicates that users’ documents will be accepted for spooling; the printing option indicates that they will be accepted for printing. The Bypass option allows users to bypass spooling and send documents directly to the printer. The “Seen as” name is what users see in the Chooser. By default, it’s the name of the uncaptured printer with the word *Spooler* added to it. The name, not including “Spooler,” must be 32 characters or fewer. The program automatically shortens longer names. If you want to change the name of the spooler, enter the new name.

7 Click OK.

The program begins capturing the printer. You see a series of status messages, and clicking Stop Capture at any time halts the process.

The print server adds the name of the captured printer to the Printer menu. The print server also creates a print queue folder for each captured printer and stores it in the Preferences folder (inside the System Folder). This folder contains the print log and print queue files. The folder’s name consists of the letter *Q* followed by the printer’s name followed by the name of its AppleTalk zone. If there is no zone, the name ends in an asterisk instead. For instance, “Q_Gutenberg_*” would indicate a printer named *Gutenberg* on a network that does not have zones. The *Q* folder also holds temporary files that the print server creates for spooled jobs.

You’ll learn how to work with the print log and queue files in the Chapter 7, “Print Server Supervision.”

8 Repeat steps 2 through 7 for each additional printer you want to capture.

Repeat the steps until you have captured all the printers you need, or you have reached the maximum of five printers.

Getting users ready

Macintosh print server users should all have the same version of **printer drivers** installed on their workstations. (This is true even if they use networked printers directly.) The AppleShare Print Server software does not include printer drivers. To update the printer drivers in System 6 workstations on the network, use the installer disks that came with your System 7 upgrade kit. (Apple II and PC users can continue to print using their usual network printing software.)

Once users have updated printer drivers installed in their workstations, the print server is ready to use. In many cases you'll find that you have few responsibilities beyond physically maintaining the printers. You can, however, control the process more closely. For more information on print server supervision and record keeping, see Chapter 7, "Print Server Supervision."





5 Apple II Network Startup

When network startup is in effect, Apple IIGs and Apple IIe users start up from system files stored on the file server rather than on their local computers. This chapter provides a basic introduction to network startup, followed by step-by-step instructions for using network startup.

About network startup

Network startup (sometimes known as **network booting**) is a special network service that allows you to provide startup information from the file server. Once workstation computers start up, users can start up programs from and store data on the file server or locally.

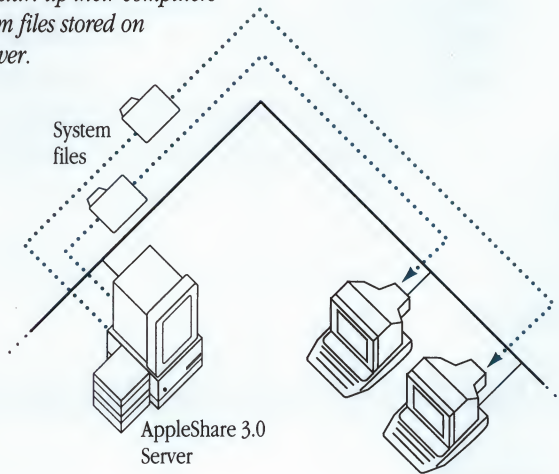
Economy and control are the two principal reasons to use network startup. You can realize considerable savings because many users won't need hard disks or even a second floppy disk drive. You can also supervise workstation computers very closely. You can determine what system files are used. You can set the startup program so that users all start up into the same working environment. You don't have to worry about floppy disks getting lost or destroyed, and you have access to all work stored on the server.

Preparing for Apple II network startup

Much of the software you need for network startup of Apple IIe and Apple IIGS computers is installed automatically with the Apple II options included with AppleShare.

On installation, AppleShare places software for Apple IIe and Apple IIGS network startup into the server's System Folder. When you take the next step and enable Apple II network services, AppleShare creates a folder called Users. Contained in this folder is a separate user folder for each person on the user list. Inside each user folder is a setup folder containing a file called AtInit. AppleShare uses this file to get to the system information, which is stored in a separate folder called System. The system information consists of a file called Basic.System plus additional startup information.

Users can start up their computers from system files stored on the file server.



The file server software you've already installed is adequate for Apple IIe network startup. However, you will need to install software updates for the Apple IIGS. You'll also want to install the programs that users will be working with, plus the Aristotle menu software if necessary. (See the "Copying Aristotle to the File Server" section later in this chapter.)

Installing Apple IIGS updates

The procedure given here installs Apple IIGS software on a file server volume for the server computer to use in support of Apple IIGS startup programs. The instructions assume you know Apple IIGS techniques. If you need more information, see the *Apple IIGS Owner's Guide* or the *AppleTalk Network User's Guide for the Apple IIGS*.

You perform the following procedure at an Apple IIGS workstation on the network. If you haven't yet connected any Apple IIGS computers to the network, see the *AppleTalk Network User's Guide* or the owner's guide for your cable system.

If you've never used the Apple IIGS Installer, refer to Chapter 5 of the *Apple IIGS System Software User's Guide* for background information and for a full explanation of the interface you'll see while performing the following procedure.

These instructions also assume that you're installing from an Apple IIGS system with at least two 3.5-inch disk drives. If that isn't possible, you'll need to swap disks frequently during the installation process.

1 Start up the Apple IIGS with a backup copy of the *Apple IIGS System Disk*.

2 Initialize a blank disk.

For instructions, see "To Initialize a Disk" in Chapter 2 of the *Apple IIGS System Software User's Guide*.

3 Insert the *Apple IIGS System Tools* disk in an empty disk drive.

You may have to eject the *System* disk to insert the *System Tools* disk.

4 Open the System.Tools icon.

5 Open the Installer icon.

6 Click the Disk button until the name of the disk you've just initialized appears above the window on the right side of the Installer screen.

7 Select AppleShare on 3.5 Disk in the list of updates in the window on the left side of the Installer screen.

- 8 **Click Install.**
- 9 **Click Perform This Update.**
- 10 **When you see a dialog box indicating a successful installation, click OK.**
- 11 **Quit the Installer.**
- 12 **Restart the Apple IIGS with the disk on which you've just installed the AppleShare on 3.5 Disk update.**

You see a message asking for your user name.
- 13 **Enter the administrator's name and press Return.**
- 14 **Choose Control Panel from the Apple menu.**

The AppleShare icon should be selected in the column on the left.
- 15 **Connect to the file server and select the server startup disk.**

For more information, see "Logging On to a File Server From the Control Panel" in Chapter 3 of the *AppleTalk Network User's Guide for the Apple IIGS*.
- 16 **Insert the *Apple IIGS System Tools* disk in an empty disk drive.**
- 17 **Open the System.Tools icon.**
- 18 **Open the Installer icon.**

19 Click the Disk button until the name of the file server's startup volume appears above the window on the right side of the Installer screen.

20 Select Server Network Startup and Server Quick Logoff in the list of updates in the window on the left side of the Installer screen.

This is an optional step. The Server Quick Logoff feature automatically disconnects a user who quits the startup program.

21 Click Install.

You'll see a dialog box warning you that this update should be installed only on the startup volume of a file server.

22 Click Perform This Update.

23 When you see a dialog box indicating a successful installation, click OK.

24 Quit the Installer.

25 Using the AppleShare Admin program, assign See Files and See Folders privileges for the Apple IIGS System Folder on the startup volume to Everyone.

For more information on assigning access privilege, see the "Sharing Volumes and Folders" section in Chapter 3, "Setting Up File Service."

Copying Apple II software to the file server

This section explains how to install Apple II software on an AppleShare 3.0 file server.

△ **Important** The Apple II software you install is accessible both by Apple II users starting up over the network and by users starting up locally.

Before you copy any copyrighted programs to a file server volume, be sure to obtain the appropriate license from the manufacturer. Sharing programs on a file server without express permission is a violation of copyright law. △

You copy Apple II applications to a file server volume in the same way that you copy other items. For instructions, see “To Place Copies of Items on a Different Disk” in Chapter 3 of the *Apple IIGS System Software User's Guide*.

Make sure that the programs you copy to the file server are **AppleShare-aware**—that is, designed specifically to work on an AppleShare file server. If you aren't sure whether a particular program is AppleShare-aware, check with the software publisher or with your authorized Apple reseller.

You can copy setup files and desk accessories in addition to application programs.

- If a setup file is to be shared by everyone, copy it into the System.Setup folder, which is inside the System folder (not to be confused with the System Folder containing the server's system software) on the file server startup disk.
- If a desk accessory is to be shared by everyone, copy it into the Desk.Accs folder, which is inside the System folder on the file server startup disk.
- If a setup file or a desk accessory is to be used only by an individual user, copy it into the Setup folder inside the individual's folder, which is in the Users folder on the file server startup disk.

Set the access privileges for the volume and any folders containing programs so that the appropriate users will have access to the programs. (See the “Sharing Volumes and Folders” section in Chapter 3, “Setting Up File Service,” for instructions.)

Copying Aristotle to the file server

Aristotle is menu-management software specially designed for schools. It allows users to start up programs from the file server without using pathnames. You install Aristotle following the directions in the *Aristotle Administrator's Guide*. If you'll be using Apple IIGS computers on the network, you should also install the following updates from an Apple IIGS.

- 1 **Start up the Apple IIGS with an AppleShare startup disk.**
- 2 **Log on to the startup volume of the file server.**
- 3 **Insert the *Apple IIGS System Tools* disk in an empty disk drive.**
- 4 **Open the System.Tools icon.**
- 5 **Open the Installer program icon.**
- 6 **Click the Disk button until the name of the file server volume that contains the Aristotle Menu Display program appears above the window on the right side of the Installer screen.**
- 7 **In the window on the right, open any necessary folders until you reach the folder that contains the Aristotle Menu Display program.**
You should see the dimmed filename `display.Ø`.
- 8 **Select Aristotle Update in the list of updates in the window on the left side of the Installer screen.**
- 9 **Click Install.**
- 10 **When you see a dialog box indicating a successful installation, click OK.**
- 11 **Quit the Installer.**

Preparing for network startup

Before you can enable network startup, you have to tell AppleShare that you want to do so.

- 1 **Open the AppleShare Admin program.**
- 2 **Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears:

File Server Preferences

Server Name : Cogs Division File Server

Admin Key :

Maximum Number of Connections : 25

☐ Minimum Number of Characters in Password :

☐ Number of Days until Password Expires :

☐ Number of Failed Login Attempts Before Login Disabled :

☐ Allow User to Save Password for Automatic Login

☐ Enable Apple II Startup Service

Revert Save

- 3 **Select Enable Apple II Startup Service.**

Choosing this option and clicking save activates the Startup menu on the far right of the menu bar.

- △ **Important** You must restart the server computer before the Enable Apple II Startup Service option is enabled. △

Enabling Apple II network startup

If you have installed the Apple IIGS updates and have chosen the Enable Apple II Startup option in the File Server Preferences window, you have already provided network startup services. Even if you do nothing more, any Apple II user can start up to **BASIC**. If you want users to start up to another program, such as Aristotle, you need to work with the Startup menu.

1 **Open the User List.**

Choose User List from the Users menu.

2 **Open the Group List.**

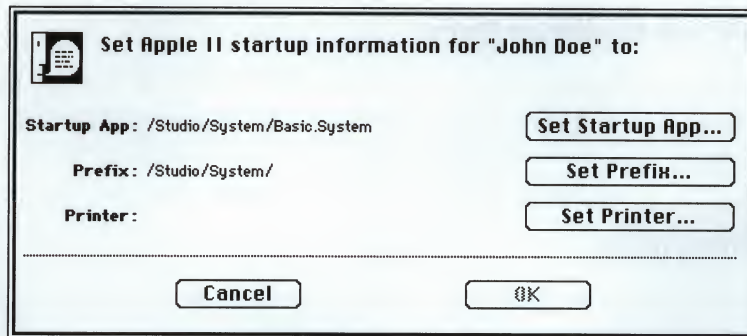
Choose Group List from the Groups menu.

3 **Select one or more users or a group of users.**

If you work with one user at a time, you have the option of designating different startup options for each one. If that isn't important, you can select multiple users from the User List or a group of users from the Group List. AppleShare still creates a separate folder for each user, but the folders are identical.

4 **Choose Set Apple II Startup Info from the Startup menu.**

A dialog box appears:

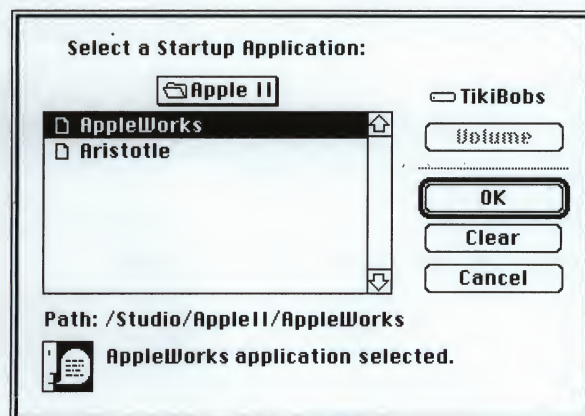


5 Click Set Startup App.

This brings up a version of the standard file list. The startup application program can be on any volume.

6 Select a startup application program.

Find the application program, opening folders as needed. Select it, and click OK.



7 **If you wish to, click Set Prefix.**

The prefix determines where the user stores files. By default, this is in the same folder as the application program. If you wish, you can assign storage elsewhere. The standard file list appears again.

8 **Choose a prefix.**

Select the volume or folder you want the prefix to point to, and click OK.

9 **Click Set Printer.**

The printer dialog box appears. Select a printer using the following procedure:

- a. Select a printer type.

ImageWriter II is the Apple II default, but you can also select another type. Click the name in the Type box, and then choose from the pulldown menu that appears.

- b. If necessary, select a zone.

If your network is part of an internet that is divided into zones, zone information is included. Your default zone is shown in the Zone box.

- c. Select a printer.

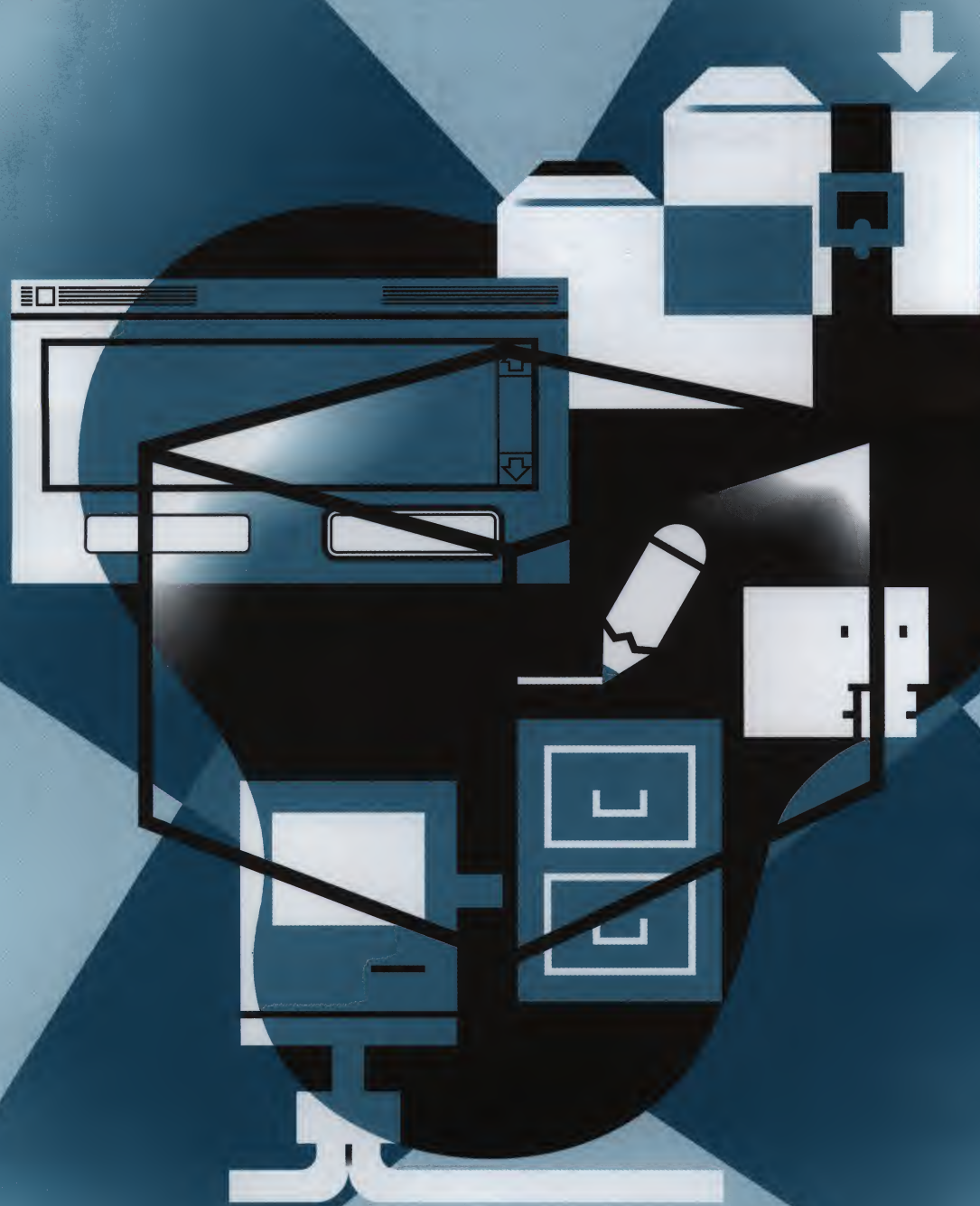
You have a choice of any printer in the zone. The default choice is shown in the Name box. If there is some reason to select another printer, click the name, and then choose it from the pulldown menu that appears.

- d. Click OK.

The user's documents are automatically sent to that printer.



By installing Apple II software and the Apple IIGS updates and assigning startup information to users, you have done everything necessary for Apple II users to start up from the network.



6 File Server Supervision

AppleShare provides you with a number of methods to control and track file server performance. This chapter explains the supervision options and shows you how to put them into operation.

Sending file server messages

You can send four kinds of messages to file server users:

- greetings that all users see when they log on to the file server
- messages to one or more specific users
- shutdown messages that tell users when the server is shutting down, with additional explanations as needed
- disconnection messages, informing a particular user or group of users that they are being disconnected from the file server, with additional explanations as needed.

The procedures for sending greetings and user messages are given in the next few sections. Shutdown messages are covered in the section “Quitting and Restarting File Service” later in this chapter. Disconnection messages are covered in “Disconnecting Users” later in this chapter.

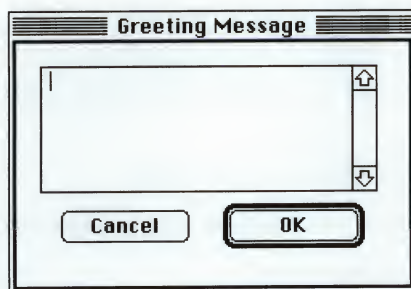
◆ **Note** Whenever a message window is open, you can edit the message using the Undo, Cut, Copy, and Paste commands in the Edit menu. ◆

Greetings

You can set a greeting message that users will receive whenever they log on to the file server.

- 1 **Start up the file server, if it is not already running.**
- 2 **Choose Set Greeting from the Server menu.**

The Greeting Message dialog box appears:



3 Enter the greeting and click OK.

Enter a greeting of up to 199 characters in the scrollable window.

- △ **Important** Only Macintosh users who have installed AppleShare 3.0 workstation software will receive greeting messages. Apple II and IBM PC users cannot receive file server messages. △

All Macintosh users see this greeting when they log on to the file server. You can change it any time by choosing Set Greeting again. The old greeting appears in the box; you can delete the old message and type a new one in its place.

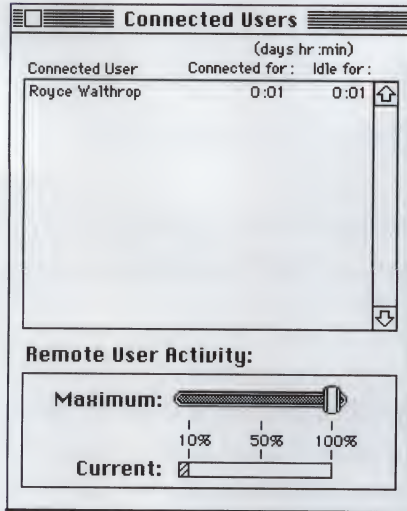
◆ **Note** You do not have to create a new greeting each time you start up file service. Greetings are stored with the program between file server sessions and become active again each time you start up the file server program. ◆

Specific user messages

You can send messages to any connected Macintosh user or group of Macintosh users.

1 Choose Show Connected Users from the Server menu.

The Connected Users window appears, showing a list of connected users:



2 Select the user (or users) you wish to communicate with.

3 Choose **Send Message to User** from the **Server** menu.

You see the User Message box:



4 Enter a message of up to 199 characters and click **OK**.

The message appears on the selected user's screen.

△ **Important** Users are able to receive specific user messages only if they have installed System 7 or AppleShare 3.0 workstation software on their Macintosh computers. Apple II and IBM PC users cannot receive file server messages. △

Quitting and restarting file service

You may need to quit file server operations periodically. Because System 7 permits multiple programs to be open simultaneously, you don't have to switch off the server computer when you quit file service. So you can keep other services open even when file service is temporarily discontinued.

- △ **Important** Never quit file service by switching off the server computer. If you do, connected users may lose unsaved information. Always follow the procedures provided in the next section. △

Quitting file service

1 Choose Quit from the File menu.

The Terminate File Service dialog box appears:



2 Enter the number of minutes until shutdown.

The default time until shutdown is 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours. Users who haven't logged off at shutdown lose any information they haven't saved, so you should pick a time that gives them adequate warning.

3 Enter any additional message you wish to send.

This step is optional. The file server program will notify all connected users that file service will be terminated. If you choose to enter an additional message, it can be up to 199 characters and will be received by every connected Macintosh user along with notification that file service will be terminated.

4 Click OK.

Every connected user receives a standard shutdown warning, giving the time until shutdown. Macintosh users with System 7 or AppleShare 3.0 workstation software will also receive your additional message, if you sent one.

If the time you enter is greater than an hour, the warning is repeated once per hour until the final hour, every ten minutes during the final hour, and then at five minutes, two minutes, and one minute before service is halted. Users can't connect to the server during the final five minutes.

Restarting file service

When you are ready to resume file service, you follow much the same procedure as when you started the server and AppleShare Admin for the first time:

- 1 **If necessary, turn on the server computer and any connected disks or drives that have been switched off.**
- 2 **Double-click the System Folder to open it.**
- 3 **Double-click the AppleShare File Server icon.**
- 4 **If necessary, double-click the AppleShare Admin icon.**

As noted earlier, you don't need to run the AppleShare Admin program unless you have administrative work to perform. For security reasons, it's wise not to leave Admin running and unattended unless the server is in a locked room.

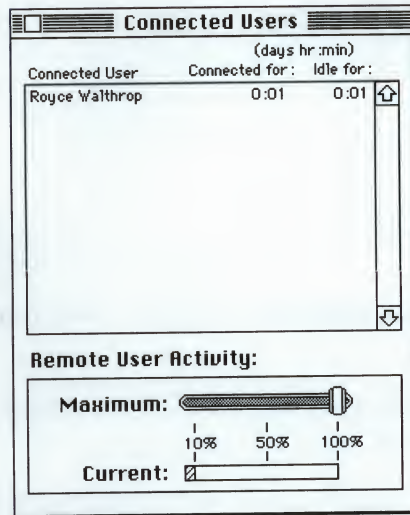
◆ **Note** You can automate restarting by dragging the AppleShare File Server icon, or an **alias** of the icon, into the Startup Items folder. This way the server program starts up when you switch on the computer. You can do the same thing with the Admin program as well. For more information about the Startup Items folder, see the manuals that came with your computer, or see your System 7 documentation. ◆

Disconnecting users

You may at times want to disconnect one or more users from the file server without disrupting other users. AppleShare makes it easy for you to do this.

1 Choose **Show Connected Users** from the **Server** menu.

The Connected Users window presents a list of all users currently logged on to the file server.



2 Select the user (or users) from the Connected User list.

3 Choose Disconnect User from the Server menu.

You see the Disconnect User dialog box:



4 Enter the number of minutes you want before the user is disconnected, and an optional message, and click OK.

Unless you specify otherwise, AppleShare disconnects the selected users after 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours.

A message announcing that disconnection will take place at that time is automatically included. If you want, you can also include an explanatory message of up to 199 characters.

At the specified time, the users are disconnected.

Monitoring file server usage

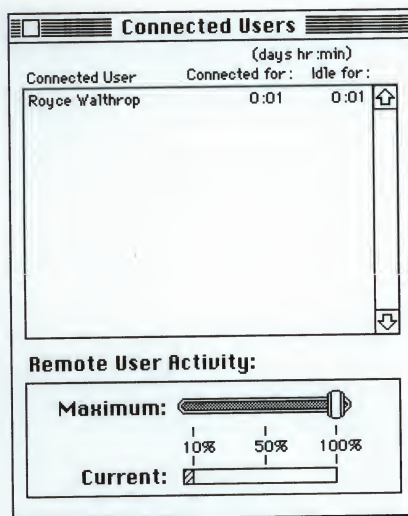
AppleShare allows you to observe either current file server usage or usage that has occurred over time. You can monitor file server usage by viewing the Connected Users window or by using the file server log.

Using the Connected Users window

The Connected Users window lets you see a snapshot of current server use.

1 Choose Show Connected Users from the Server menu.

The Connected Users window appears:



The Remote User Activity box at the bottom of the Connected Users window gives you a dynamic measure of server activity. In the box are two scales. The Current scale (the lower scale) indicates the percent of the server computer's performance that is currently being devoted to processing file server requests. The Maximum scale (the upper scale) allows you to set a maximum limit for processing file server requests.

◆ **Note** The Maximum scale is described in the section “Adjusting Processing for File Server Activity,” later in this chapter. ◆

Using the file server log

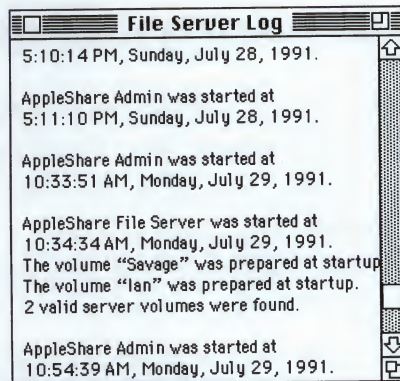
When you start up the AppleShare File Server, you see a number of status messages. The contents of these messages are recorded in the file server log. The log includes dates and times of startup for both the file server and Admin, and the number of connected hard disks.

1 Start up the AppleShare Admin program.

2 Choose File Server Log from the Server menu.

The log file appears, scrolled to the end to show the most recent entries. You can scroll toward the top of the file to see earlier entries if you wish.

AppleShare sets limits on the size of the file, so it deletes earlier records if needed to make space available.



The file server log file is a **TeachText file**, and can be opened with the TeachText application program. It can also be converted into any other word-processing format that can convert text files. You can find the log file in the same folder as the AppleShare File Server program. If you have not moved the File Server program, the log file is kept in the Preferences folder.

Creating and using AppleShare reports

The AppleShare Admin program supports two types of reports: file server reports and shared item reports.

File server reports

- list all connected hard disks or drives and show the space available on each
- list registered users and show what groups they belong to
- tell how many files and folders each user maintains and how much space the files and folders occupy

Shared item reports

- list the folders on a disk or drive, the names of their enclosed files and folders, the access privileges, the owner, and associated group for each folder
- show if a folder is locked or unlocked and if a file is copy-protected

Both file server and shared item reports are available in either complete or summary form. The complete versions contain everything listed above. The file server summary shows you disk use and users and groups only, omitting file and folder data; the shared item summary shows you folder information only, omitting file data.

By studying reports, you can determine if hard disks or volumes are being underused or overused, and you can get an early warning of when to reclaim some disk space or when to add new equipment. You can remind yourself of group membership at a glance, and you have a handy reference for user queries. You can see if users are wasting space by keeping multiple copies of documents on the server.

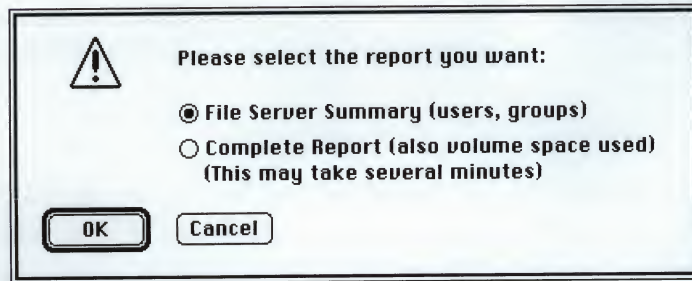
Since reports are saved as TeachText files, you can open, view, or print them with TeachText or with most word-processing programs.

◆ **Note** TeachText files are not readable on the screen through the AppleShare Admin program. It's a good idea to create a reports folder before creating reports. ◆

Follow these steps to create a report:

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose File Server Report from the Server menu or Shared Item Report from the Privileges menu.**

A dialog box appears:



- 3 **Select File Server (or Shared Item) Summary or Complete Report and click OK.**

The standard file list for the startup disk appears.

- 4 **Select the folder in which you want to save the report.**

It's probably most convenient to create a special reports folder. You can, however, save the report wherever you wish.

- 5 **Type in a name for the report and click Save.**

You will probably want to use a name that reflects the type of report and the date of its creation.

The report is saved as a text file in the designated folder.

Adjusting file server performance

Over time, demands for file service may increase or decrease, and you may want to adjust server performance accordingly. The AppleShare software provides a number of methods.

Using the Admin program, you can raise or lower the number of users who can connect to the file server at any one time. Using the file server program, you can set the maximum percent of processing the server computer should provide for connected user activity. Memory demands can also place a burden on file server performance. The AppleShare Admin program provides two ways to free up memory space: by periodically emptying network Trash and by compacting volume access privileges. The following sections describe how to use these methods.

◆ **Note** Server performance depends on a number of interacting factors: the kind of Macintosh computer the server is running on, the amount of RAM on the Macintosh, the type of network used, the number of users, and the amount of other work you do on the machine. The features described in the next few sections provide simple ways of meeting changing performance needs. If these are not adequate, you may need to consider adding new equipment or changing to more powerful server hardware or to a faster network type. ◆

Changing the maximum number of concurrent connections

This option limits the number of users who can connect at any one time. Those who try to log on after the maximum has been reached see a message that the server has reached its maximum and are directed to try again later.

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears:

File Server Preferences

Server Name: Accounting

Admin Key:

Maximum Number of Connections: 25

☐ Minimum Number of Characters in Password:

☐ Number of Days until Password Expires:

☐ Number of Failed Login Attempts Before Login Disabled:

☐ Allow User to Save Password for Automatic Login

☐ Enable Apple II Startup Service

Revert Save

- 3 **Enter any number from 0 to 120 in the Maximum Number of Connections box.**
- 4 **Click Save.**

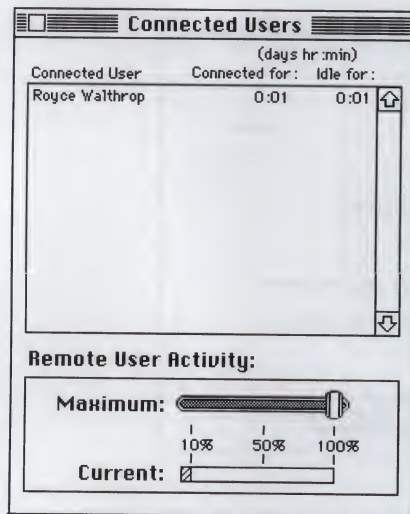
The change takes place the next time you restart the file server.

Adjusting processing for file server activity

Because System 7 allows multiple programs to be open simultaneously, you can use the same computer for file service and for other tasks of your own choosing. You can adjust the server computer's performance by adjusting the maximum percent of processing the server computer should devote to remote activity.

- 1 **Start up the AppleShare File Server program, if it is not already running.**
- 2 **Choose Show Connected Users from the Server menu.**

The Connected Users window appears:



- 3 **Drag the Maximum scale slide bar in the Remote User Activity box to the desired setting.**

Moving the slide bar to the right—to a higher percentage—increases the priority the computer gives to file server demands, thus increasing file server performance. Moving the slide bar to the left—to a lower priority—decreases the preference the computer gives to file server demands, thus decreasing file server performance and freeing up more of the computer's processing for other services or for local work.

The change in setting takes effect immediately.

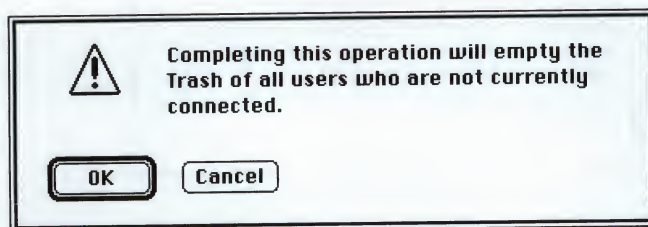
Emptying network Trash

If users are disconnected from the file server before they have an opportunity to empty their Trash, the Trash continues to take up disk space. You can free up this disk space by occasionally using the AppleShare Admin program's Empty Network Trash command.

Follow these steps to empty network Trash:

- 1 **Choose Empty Network Trash from the Server menu.**

You see this dialog box:



- 2 **Click OK.**

Compacting volume access privileges

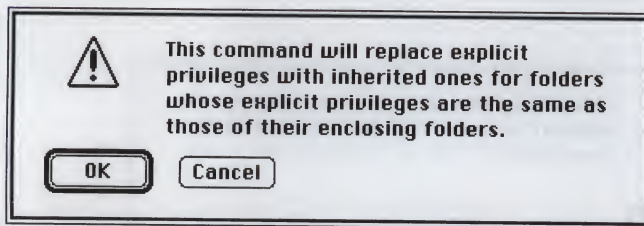
Explicit access privileges take up disk space and can slow file server startup and response time if they are used extensively on a shared volume. Clearing explicit access privileges can free up some disk space and improve response time. You can easily clear all explicit access privileges from an entire volume by using the AppleShare Admin program's Compact Volume Access Privileges command.

Compacting volume access privileges replaces explicit access privileges with inherited ones for folders whose explicit privileges are the same as those of their enclosing folders. Replacing explicit with inherited privileges compacts the volume because inherited privileges take up much less disk space.

Follow these steps to compact access privileges:

- 1 **Choose Access Information from the Privileges menu.**
- 2 **Select a volume from the Volumes list.**
- 3 **Choose Compact Volume Access Privileges from the Privileges menu.**

You see this dialog box:



- 4 **Click OK.**

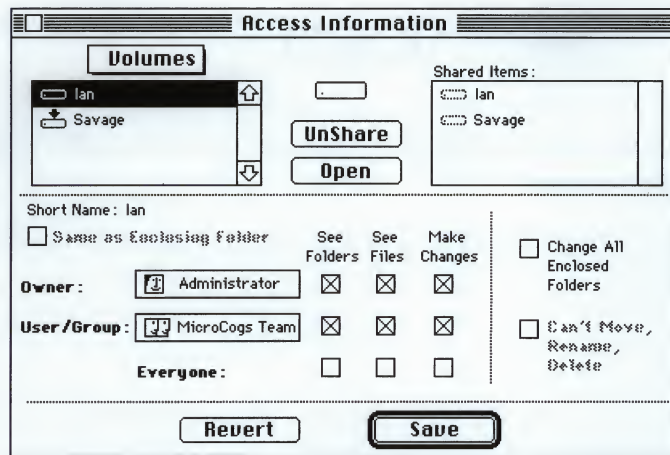
The explicit privileges for all folders within the volume are cleared, and each folder now reverts to its inherited status.

Limiting program use

The AppleShare File Server allows you to limit the number of users who can start up a program simultaneously, as you may need to do to meet the licensing requirements of a software licensing agreement.

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose Access Information from the Privileges menu.**

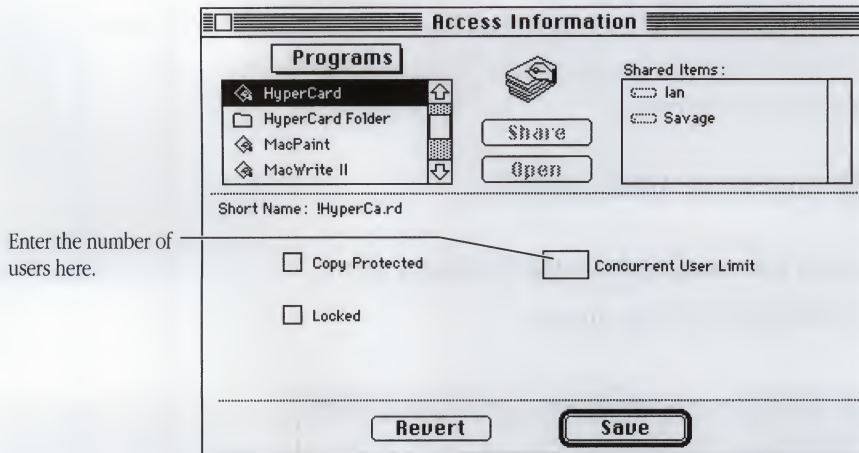
The Access Information window appears:



- 3 **Select the program that you want to limit use of.**

You may need to select a volume or folder first before you see the program you want listed in the window.

The lower portion of the window changes.



- 4 In the Concurrent User Limit box, enter the desired number of users who can start up the program.

The number corresponds to the maximum number of users who can use the program at the same time.

- 5 Click Save.

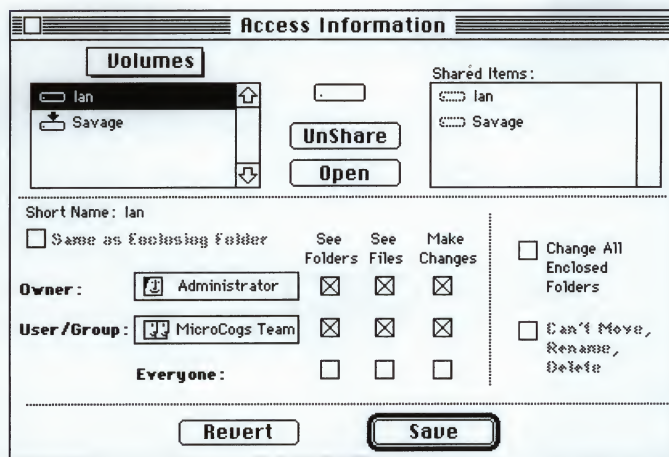
If additional users try to start up the program, they are instructed to try again later.

Copy-protecting programs and documents

The AppleShare File Server allows you to copy-protect any file so that it cannot be duplicated while the file server is running. Copy-protecting allows users to start up a program but not to copy it from the file server.

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose Access Information from the Privileges menu.**

The Access Information window appears:

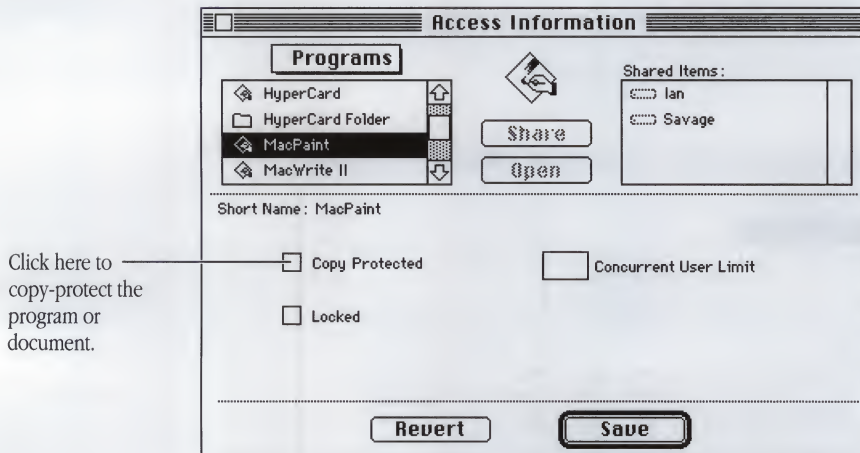


3 Select the program or document that you want to copy-protect.

You may need to select a volume or folder first before you see the program or document you want listed in the window.

The lower portion of the window changes.

4 Click the Copy Protected checkbox so an X appears.



5 Click Save.

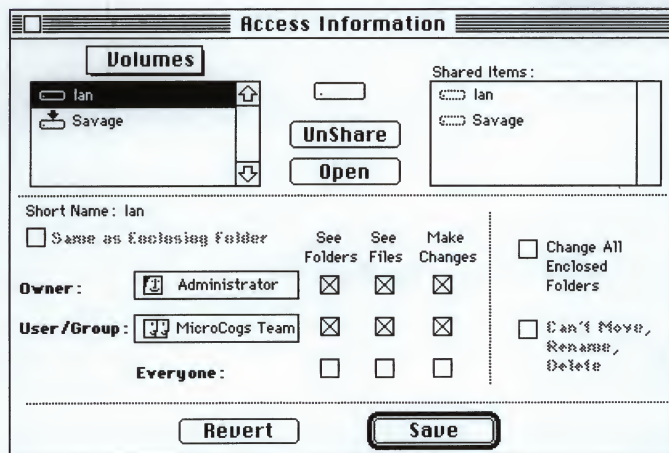
◆ **Note** You can copy-protect files only, not folders. ◆

Locking files

Locked files cannot be renamed, discarded, or changed, even by their owner. They can, however, be copied, duplicated, or opened, so the See Folders and See Files privileges you've allowed remain in effect. After you lock a file, Make Changes privileges are no longer in effect.

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose Access Information from the Privileges menu.**

The Access Information window appears:

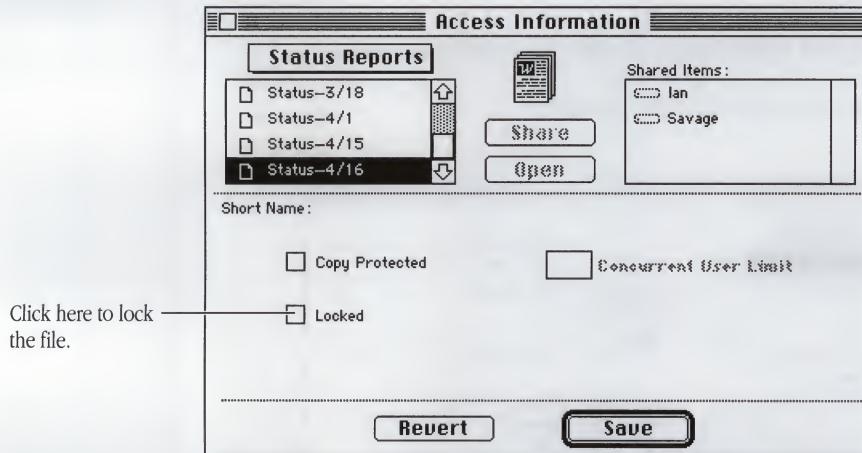


3 Select the files you intend to lock.

You may need to select a volume or folder first before you see the files you want listed in the window.

The lower portion of the window changes.

4 Click the Locked checkbox so an X appears.



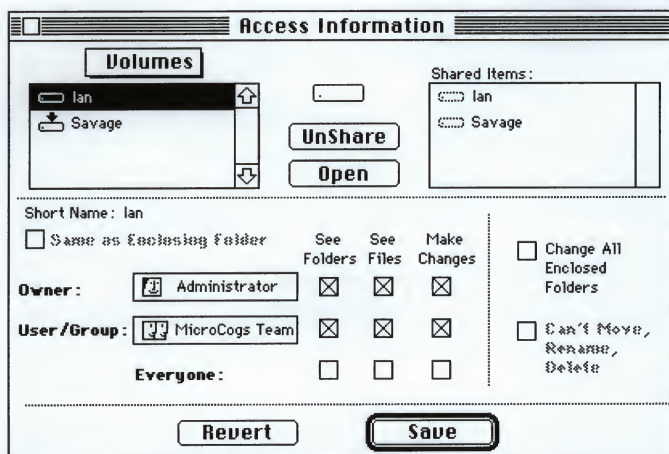
5 Click Save.

Locking folders

Locked folders cannot be moved, renamed, or deleted, even by their owner. They can, however, be copied, duplicated, or opened, so the See Folders and See Files privileges you've allowed remain in effect. After you lock a folder, Make Changes privileges are no longer in effect.

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose Access Information from the Privileges menu.**

The Access Information window appears:

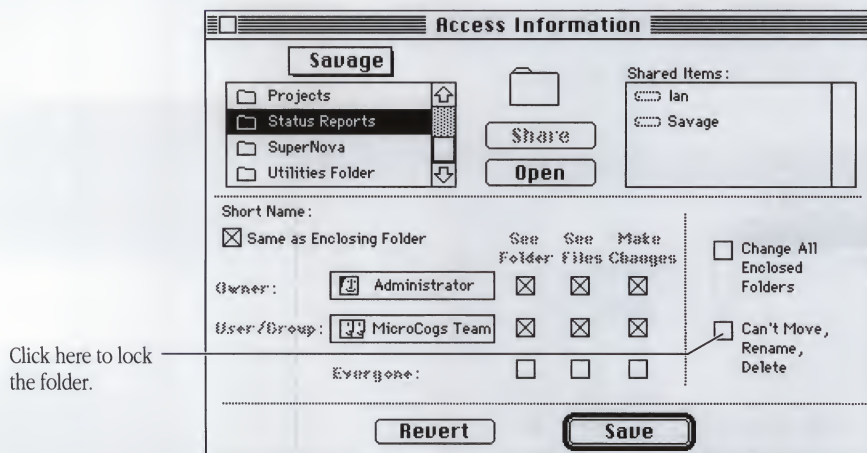


3 Select the folder you want to lock.

You may need to select a volume or folder first before you see the folder you want listed in the window.

When you select a folder, the Can't Move, Rename, Delete option in the lower-right corner of the window becomes active.

4 Click the Can't Move, Rename, Delete checkbox so an X appears.



5 Click Save.

Backing up file server information

You should back up information on the file server frequently, just as you would for a local hard disk.

Backing up files and folders

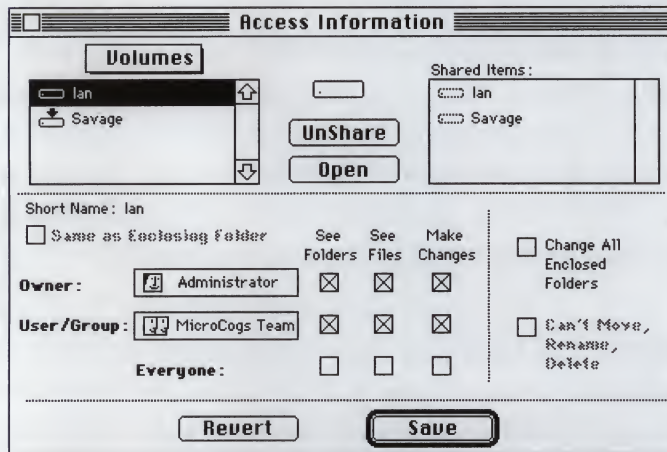
You can back up files and folders—your own or users’—in two ways. You can use a backup utility program to back up the contents of a volume to floppy disks or to another medium such as tape. If you choose this approach, be sure to use a backup system that will preserve the access privileges for the folders you copy. See your authorized Apple reseller for available choices. Alternatively, you can back up file server volumes and folders to a special backup volume using the Copy <Item> command.

- △ **Important** If you are backing up a large number of files and folders, it's a good idea to terminate file service before backing up. If you do not terminate file service, response time for remote activity is likely to slow down appreciably while you're backing up, and workstations may appear to freeze. △

Follow these steps to back up files and folders:

- 1 **Start up the AppleShare Admin program.**
- 2 **Choose Access Information from the Privileges menu.**

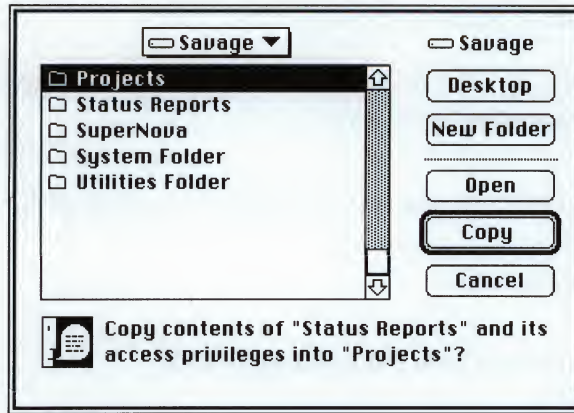
The Access Information window appears:



- 3 **Select the volume or folder you wish to copy in the Volumes list at the upper-left corner of the Access Information window.**
- 4 **Choose Copy <Item> from the Privileges menu.**

The command name changes to reflect the object you are copying.

You see a dialog box listing potential destination volumes or folders:



5 **Select the destination volume or folder and click Copy.**

AppleShare backs up the entire contents of the selected volume or folder.

- △ **Important** You (or a user) can back up files or folders simply by copying them onto floppy disks. This won't preserve access privileges unless you use a backup program designed to preserve them. Such third-party backup programs may be available from your software dealer. If access privileges are lost, you can restore them manually if you have a current record of them in a shared item report. Whatever method you use, you should try to schedule backups for times of low server activity. △

Backing up your Users & Groups Data File

You should back up your Users & Groups Data File. That way, if it gets damaged or lost you won't need to re-register users and re-create groups.

- 1 Open the System Folder on the server computer's startup disk.**
- 2 Open the Preferences folder.**
- 3 Drag the Users & Groups Data File to a floppy disk.**

Adding hard disks and drives to the file server

You can easily add additional hard disks or CD-ROM drives to the server.

- 1 Quit the File Server and AppleShare Admin programs.**

See “Quitting and Restarting File Service” earlier in this chapter.

- 2 From the Finder, choose Shut Down from the Special menu.**

△ **Important** Don't connect a peripheral device to the server computer while the computer is on. Always shut down the computer before connecting peripheral devices to it. △

- 3 Attach the new hard disks or CD-ROM drives.**

Follow the manufacturer's instructions.

- 4 If necessary, initialize the hard disks.**

- 5 Restart the server computer.**

- 6 Restart the AppleShare Admin program.**

The Admin program prepares the hard disks or CDs.

- 7 Restart the File Server program.**

The new hard disks or CDs can now be shared as volumes and used like any other.

Changing startup disks

At some point, you may want to change startup disks. You cannot merely install AppleShare Server 3.0 software on the new disk and maintain the user accounts and access privileges you've been using. Follow these steps to change startup disks:

- 1 Connect the hard disk you want to use as the startup disk to your computer.**

Use the instructions in the previous section, "Adding Hard Disks and Drives to the File Server."

- 2 Install System 7 on the new startup disk.**

Use the instructions that came with your System 7 disks.

- 3 Install AppleShare Server 3.0 software on the new startup disk.**

Use the same procedures you originally used to install AppleShare 3.0

- 4 From the Finder, copy the User & Groups Data File and File Server folder from the Preferences folder on the original startup disk to the Preferences folder on the new startup disk.**

If you have been providing print service from the original startup disk and want to continue doing so from the new startup disk, you also need to copy the AppleShare Print Server folder from the old Preferences folder.

- 5 **From the Admin program, copy any other files or folders from the original startup disk to the new startup disk.**

To copy folders to the new startup disk while retaining their access privileges, choose Copy Item from the Privileges menu.

This step is necessary only if you are *replacing* the original startup disk. If you plan to use both hard disks, you can skip this step.

- 6 **Click the icon of the new disk in the new disk's Startup Disk control panel.**

- 7 **Choose Restart from the Special menu.**

After the computer has restarted, you can provide file service from the new startup disk.

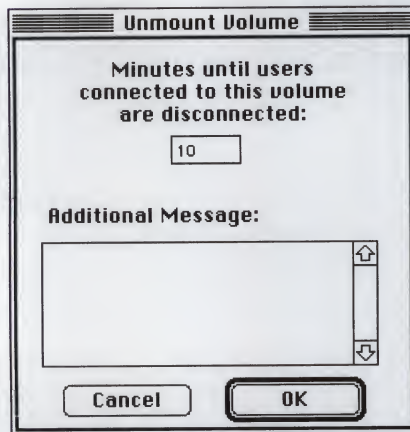
Unmounting volumes

You can make a file server volume unavailable, or “unmount” the volume, without having to quit file service. Follow these steps to unmount a volume:

1 Drag the icon of the volume you want to unmount to the trash.

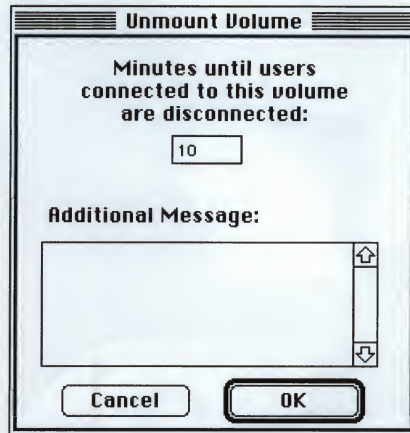
If no users are connected to the volume, it is automatically unmounted. If the volume is ejectable—if it is a CD-ROM disc, for instance—it is ejected.

If any users *are* connected to the volume, you see this dialog box:



2 If users are sharing the volume, choose Unmount Volume from the Server menu.

You see this dialog box:



- 3 **Enter the number of minutes you want to allow before the volume is unmounted, and an optional message.**

Unless you specify otherwise, AppleShare unmounts the volume after 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours. A message announcing that disconnection will take place at that time is automatically sent to any users connected to the volume. If you want, you can also include an explanatory message of up to 199 characters.

- 4 **Click OK.**

At the specified time, users are disconnected, the volume is unmounted, and the volume is ejected, if it is ejectable. However, the volume may be ejected earlier if all users connected to it log off before the specified time.

- △ **Important** Users cannot log on to a volume after you've begun to unmount it. Users who try to log on will receive a message indicating a problem. If the user's workstation is an Apple II, Apple IIGS, or IBM PC, the message will not indicate the exact nature of the problem. △



7 Print Server Supervision

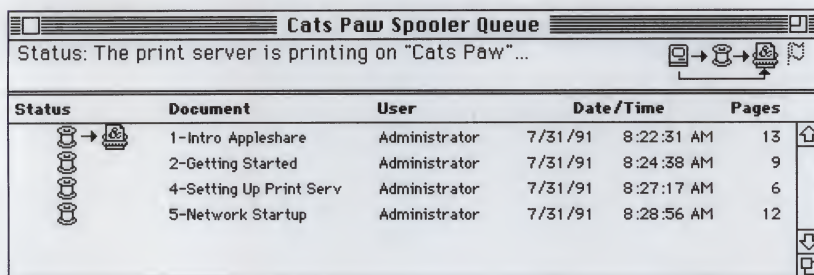
AppleShare Server 3.0 provides you with a number of methods to control and monitor print server performance. This chapter explains the supervision options and shows you how to put them into operation.

Monitoring print queue windows

Every captured printer has an associated print queue that provides detailed information on a printer's activity. At the top of the window is the Status line. It tells you what is happening at the moment. For example, if the print server is sending a document to the printer, this is reported in the status line, which changes as work progresses.

Below the status line is a list of spooled documents. The top document is always the one that is currently printing. Documents below the top are listed in the order received, unless, as discussed later, you change the order.

Each entry in the list shows the status of the document—whether it is currently being spooled from the workstation, is in the server computer waiting its turn, or, in the case of the top document, is currently printing. In addition, the document name, user name, date and time of spooling, and number of pages are included.



Status	Document	User	Date/Time	Pages
	1-Intro Appleshare	Administrator	7/31/91 8:22:31 AM	13
	2-Getting Started	Administrator	7/31/91 8:24:38 AM	9
	4-Setting Up Print Serv	Administrator	7/31/91 8:27:17 AM	6
	5-Network Startup	Administrator	7/31/91 8:28:56 AM	12

◆ **Note** The print queue for ImageWriter printers shows only the date and time for each document received. No document or user name or page count is included. ◆

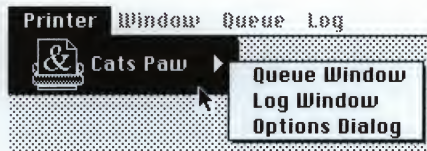
As new documents are spooled, they are listed at the end of the queue. When the queue is full, the print server blocks spooling until room becomes available. A print queue can hold up to 1000 documents, given sufficient disk space.

The queue contains listings for active documents only. Once a document has been printed, its listing is removed from the print queue and added to the **print log**. The print log and the print log window are discussed in “Using the Print Log” later in this chapter.

Viewing queue windows

When you capture a printer, its queue and log windows are both automatically opened. If a queue window is closed, you can see it by using the following procedure:

- 1 Choose the printer's name from the Printer menu.



- 2 Holding down the mouse button, drag across the printer's name into the submenu that appears next to the printer's name.
- 3 Choose Queue Window.

Managing queue and log windows

You may often want to look at the print queues of several printers simultaneously, and you may sometimes need to work with their logs as well. You can keep your windows in good order using standard Macintosh techniques of dragging, resizing, and closing. Or you can control the display with the commands in the Window menu:

- The Tile Queues and Logs command automatically sizes and positions open queue and log windows so that you can see all of them without overlap. Each window may shrink so that you see only a small part of it.
- The Stack Queues and Logs command stacks the windows with all of the front window visible and a corner of each of the windows behind visible as well. Clicking any part of a visible window brings that window to the front.

◆ **Note** Window displays have no effect on spooling or printing. A queue window need not be visible for a spooler to print. ◆

Changing the print queue

When users send documents to the print queue, they are normally listed and processed in the order received. Sometimes, though, you may wish to delete or print a document immediately.

Moving a document to the top of the print queue

Documents that have immediate priority can be moved to the top of the print queue.

1 If necessary, open the Print Queue window.

If the window is hidden, choose the printer's name in the Printer menu, and then choose Queue Window from the submenu.

2 Select the document you want to print next.

Click the document's name in the window. If necessary, scroll to find the document.

3 Choose Print Next from the Queue menu.

The selected document is moved to the second position in the queue, after the document that is currently being printed.

Deleting documents from the print queue

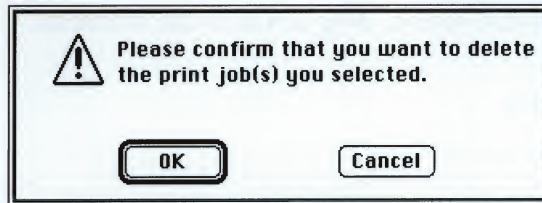
Sometimes you may wish to cancel printing of one or more documents.

- 1 **If necessary, open the Print Queue window.**
- 2 **Select the document or documents you want to delete.**

Click the first document name in the list and drag to select additional documents in sequence, or Shift-click to select additional documents in any order. If necessary, scroll to find them.

- 3 **Choose Delete from the Queue menu.**

A dialog box appears asking you to confirm the deletions:



- 4 **Click OK.**

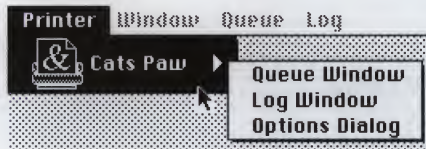
Deleted documents are removed from the print queue and an entry is included in the print log. (See "Using the Print Log" later in this chapter for more information.)

If you delete a document that's being printed, printing may continue for a short time. This is because part of the information for the document may have already been sent to the printer.

Allowing users to bypass spooling

In some situations, you may want to let users bypass the spooler and print directly to a captured printer. This is usually necessary, for example, to support manual feed. Or you may just want to give users the option of either print service or direct printing control. You bypass spooling with the Options dialog box.

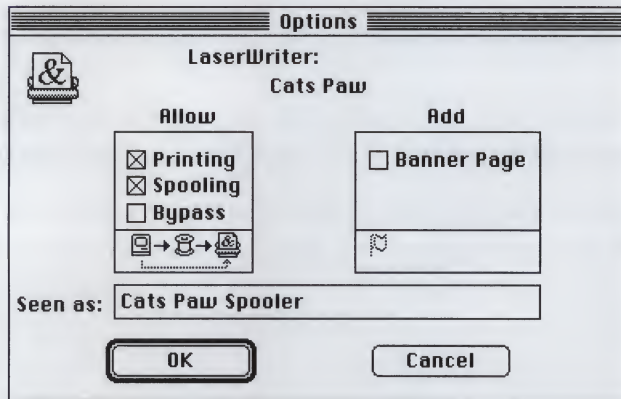
- 1 Choose the printer's name from the Printer menu.



- 2 Holding down the mouse button, drag across to the submenu.

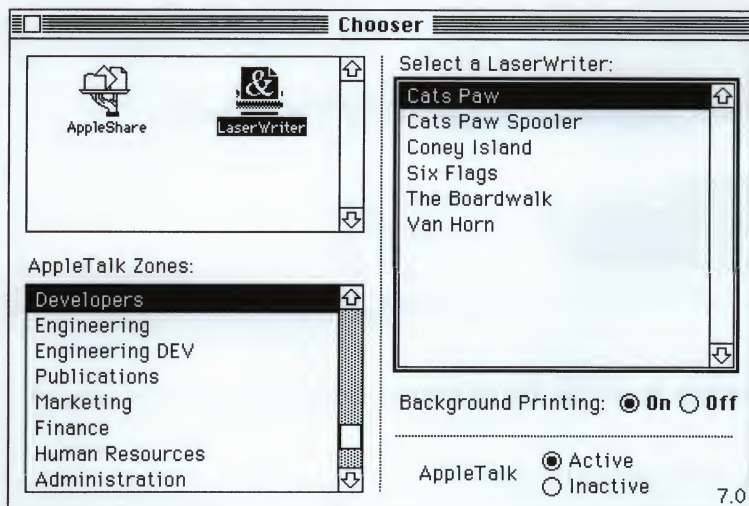
- 3 Choose Options Dialog.

The Options dialog box appears:



- 4 Click the **Bypass** checkbox so an **X** appears, and click **OK**.

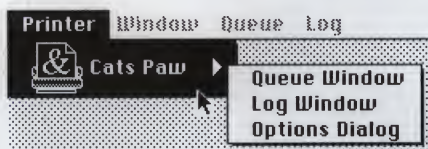
The printer is now listed in the Chooser as both a spooler and a direct printer.



Temporarily stopping spooling or printing

You may want to prevent users from printing or spooling to a captured printer temporarily—for example, while you're performing routine maintenance. You implement this with the Options dialog box.

- 1 **Choose the printer's name from the Printer menu.**



- 2 **Holding down the mouse button, drag across to the submenu.**
- 3 **Choose Options Dialog.**

The Options dialog box appears:



- 4 **Click the Printing and/or Spooling checkboxes and click OK.**

The Xs are removed from the boxes, indicating that the options are turned off.

Releasing printers

If you decide that you don't need to spool to a particular printer (or want to make room to capture a new one), you can release it with essentially the same procedure as for capturing.

1 Choose Setup from the print server's File menu.

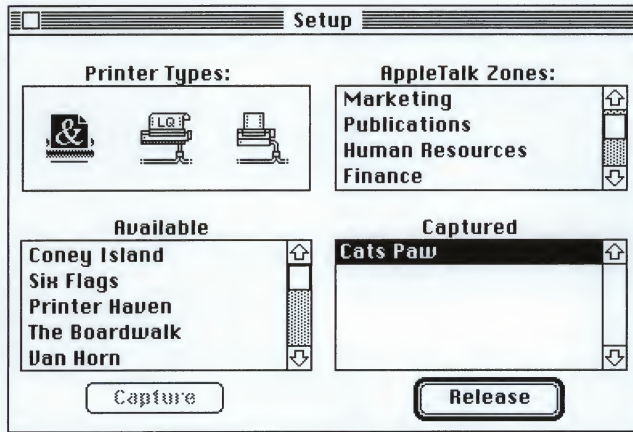
The Setup dialog box appears, showing the captured printers in the Captured list.

2 If necessary, click the appropriate icon in the Printer Types box.

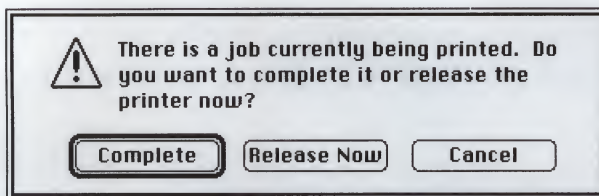
When the dialog box appears, the LaserWriter icon is automatically selected, and captured LaserWriters are displayed in the Captured list. If you want to release an AppleTalk ImageWriter II or ImageWriter LQ, you must click its icon.

3 Select the printer you want to release from the Captured list.

4 Click Release.



If you click Release while a document is spooling or printing, a dialog box appears:



5 Click Complete, Release Now, or Cancel.

- If you click Complete, the printer finishes printing the current job.
- If you click Release Now, the server stops spooling and printing.
The server does not accept additional documents for this printer. Listings for documents in the process of being spooled are deleted from the print queue and placed in the print log. All documents that have been spooled but not yet printed remain in the queue and will be printed on recapture. A document that is actually being printed remains at the top of the print queue and will be printed in its entirety on recapture.
- If you click Cancel, the printer remains captured.

Adjusting the ImageWriter Interpage Time-out option

When printing to an ImageWriter II or ImageWriter LQ, many programs treat each page as a separate document. This can cause print server problems, because each page could be listed separately in the print queue, and, much more importantly, documents might be shuffled when several documents were spooled simultaneously.

The ImageWriter Interpage Time-out option is a way around these problems. It causes the server to pause after receiving a page of an ImageWriter document. If a new page arrives within a set time (five seconds is the default) from the same user's machine, the server treats it as part of the same document as the previous page. If the page arrives later, the server treats it as page one of a new document.

Because printing can take variable amounts of time, the Time-out option is adjustable. You need to adjust it if you have either of these problems:

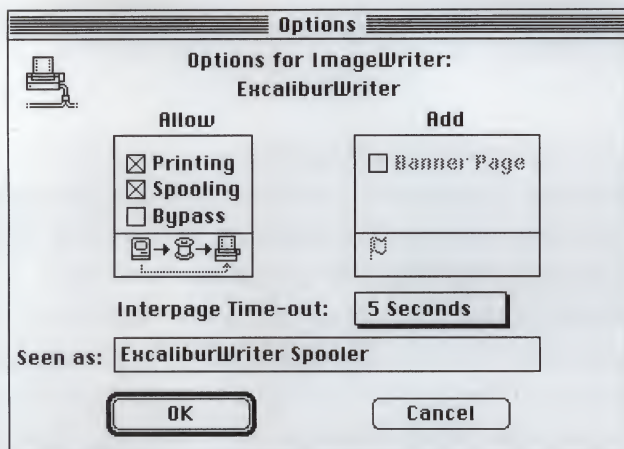
- A document is split into a series of one page documents.
- Several documents are combined into one.

In the first case, the option is set too low. You need to give the program more time to print each page. In the second case, the option is set too high.

Follow these steps to adjust the Interpage Time-out option:

- 1 Choose the printer from the Printer menu.**
- 2 Holding down the mouse button, drag across to the submenu.**
- 3 Choose Options Dialog.**

The Options dialog box appears:



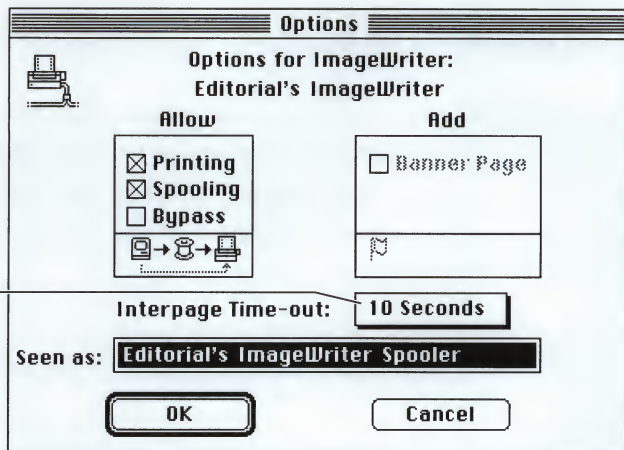
4 Pull down the Interpage Time-out pop-up menu.

To see the pop-up menu choices, click and hold the pointer in the Interpage Time-out box.

5 Select an appropriate value.

Raise the value to increase the interval; lower the value to decrease it. The new value appears in the value box:

Choose an appropriate time-out interval from the pop-up menu.



6 Click OK.

The Interpage Time-out option is set.

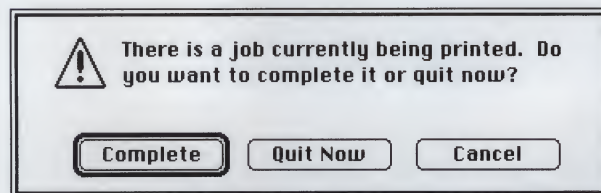
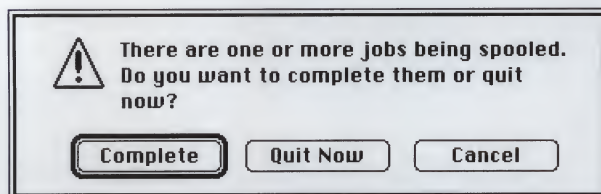
Quitting and restarting print service

If you need to quit print service, queued documents remain on the server computer's startup disk. They are printed in order when print service resumes. All captured printers are automatically released by the print server program when you quit. They are automatically recaptured when you restart the print server program, so you should explicitly release those you don't want to recapture before quitting.

Quitting print service

You suspend print service by quitting the print server program. Quitting the program has much the same effect as releasing a printer, except that all print spoolers are affected simultaneously.

If you quit while documents are spooling or printing, you see one or both of these dialog boxes:



- If you click Complete while spooling, the print server finishes spooling and registers the documents in their appropriate print queues, but it does not accept additional documents.

- If you click Complete while printing, the print server finishes printing the documents currently being printed (one per captured printer).
- If you click Quit Now while spooling, the server deletes the listings for the documents that are actively spooling or printing from the print queue and enters the listings in the print log.
- If you click Quit Now while printing, the server stops sending documents and quits. The document that is actually printing remains in the print queue and will be the first document printed when services resume.
- If you click Cancel in either case, print service continues without interruption.

◆ **Note** If you quit inadvertently—due to a power failure, for instance—all documents that have completed spooling are still listed in the print queue. Listings for documents that have not yet been spooled disappear from the queue. The documents must be spooled again. ◆

Restarting print service

You resume print service by double-clicking the print server program icon. On installation, the program is placed in the System Folder, but you can move it anywhere you choose.

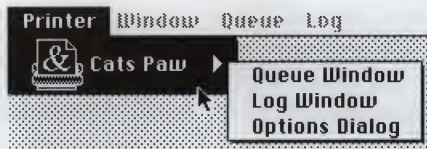
When you start up the program, the print server attempts to recapture all the printers it had captured before. It reopens any print queue or print log windows that were open before quitting, and restores the options for each printer.

◆ **Note** If, in general, you shut down the Macintosh server when you shut down print service, you may want to automate restarting. You can do so by dragging the print server icon, or an alias of it, into the Startup Items folder within the System Folder. See the documentation that came with your computer (or with your System 7 upgrade kit) for more information on aliases and the Startup Items folder. ◆

Printing banner pages

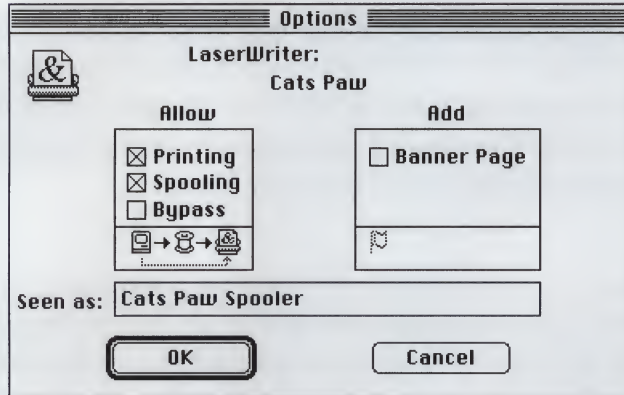
You can generate banner pages for documents produced on any LaserWriter or LaserWriter II print spooler. A banner page shows the user's name, the program, the document name, the date and time of spooling, the name of the printer, and the number of pages in a document. A banner page is similar to the cover page option.

- 1 Choose the printer's name from the Printer menu.



- 2 Holding down the mouse button, drag across to the submenu.
- 3 Choose Options Dialog.

The Options dialog box appears:



4 Click the **Banner Page** checkbox so an **X** appears.

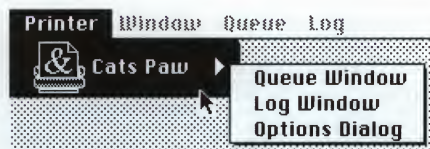
The banner page icon is no longer dimmed on the status line of the print queue window. A banner page is generated at the end of all subsequent documents printed to that particular printer.

Using the print log

The print log contains historical information about the print server. In contrast with the print queue, which contains information about documents that are waiting to print or are currently being printed, the print log records documents that have been printed, were deleted from the queue, or could not be printed for some reason. Document information is added to the log as it is removed from the queue.

Reviewing the print log

1 Choose the printer's name from the **Printer** menu.



2 Holding down the mouse button, drag across to the submenu.

3 Choose **Log Window**.

The print log for that printer appears:

Cats Paw Spooler Log					
Status	Document	User	Date/Time		Pages
Completed	0-About This Book	Administrator	7/30/91	1:32:25 PM	7
			7/30/91	1:53:44 PM	7
Disk full	2-Getting Started	Administrator	7/30/91	1:57:29 PM	2
			7/30/91	1:59:31 PM	0
Completed	1-Intro Appleshare	Administrator	7/30/91	1:35:47 PM	13
			7/30/91	2:05:12 PM	13
Completed	2-Getting Started	Administrator	7/30/91	1:46:42 PM	9
			7/30/91	2:15:51 PM	9
Completed	1-Intro Appleshare	Administrator	7/30/91	1:50:18 PM	13
			7/30/91	2:19:54 PM	13
Completed	2-Getting Started	Administrator	7/30/91	1:54:08 PM	9
			7/30/91	2:24:18 PM	9
Deleted	1-Intro Appleshare	Administrator	7/30/91	2:25:49 PM	1
			7/30/91	2:26:25 PM	0
Deleted	2-Getting Started	Administrator	7/30/91	2:04:17 PM	9
			7/30/91	2:26:52 PM	1

Saving the print log

If you want to keep the log for future reference, you can save it as a text file. You can then open and edit it, print it, or extract information from it for use in reports.

Text files can be opened with most word-processing programs. If you have any questions, consult the documentation for the word-processing program you work with.

1 Open the print log you want to save.

See the previous section, "Reviewing the Print Log," for details.

2 Choose Save from the Log menu.

A list appears, permitting you to save the log in any folder or disk you choose.

3 Enter a name for the log.

You can use the default name, which is Log File, but a name that includes the spooler name and date will help you keep track of multiple logs.

4 Click Save.

Removing the print log

If you have saved the current print log, or think that the file has grown too large and too old to be usable, you can clear it and begin anew.

- 1 Open the print log you wish to clear.**

See “Reviewing the Print Log” earlier in this chapter for details.

- 2 Choose Clear from the Log menu.**

You see a dialog box asking you to confirm your decision.

- 3 Click OK.**

The log is cleared.



8 Troubleshooting

This chapter helps you address problems you may have while providing AppleShare Server 3.0 file and print services on a network.

Problems with the AppleShare File Server

You try to run the File Server program and get a message that another copy of file server is already running.

From the Finder, check the Application menu in the far-right corner of the menu bar. If the File Server program is listed there, choose it. If it is not listed, close any open programs and restart the server computer. Then try to start up the File Server program again.

There's not enough memory for installation.

Quit any open programs that you are not currently using. If there is still not enough memory to install the AppleShare Server 3.0 software, your computer is not equipped to provide AppleShare 3.0 file and print services. Consider installing additional RAM.

Macintosh computers that contain either a Motorola 68030 microprocessor or a Motorola 68020 microprocessor *and* a PMMU coprocessor can increase memory capacity by using virtual memory. If your computer provides either of these options, see your System 7 documentation for instructions on using virtual memory.

You cannot open a shared item or file server report.

If a shared item or file server report is 32K or greater in size, TeachText cannot open the report. Use a word-processing program capable of reading plain-text (ASCII) documents to open the report.

There's not enough memory to run file and print services.

Quit any open programs that you are not currently using. If there is still not enough memory, you won't be able to provide both services on the same computer. Consider installing additional RAM. Another possibility is to provide file service on one computer and print service on another.

Macintosh computers that contain either a Motorola 68030 microprocessor or a Motorola 68020 microprocessor *and* a PMMU coprocessor can increase memory capacity by using virtual memory. If your computer provides either of these options, see your System 7 documentation for instructions on using virtual memory.

You've forgotten your Admin key.

The Admin key is stored in the Users & Groups Data File. If you forget the Admin key, drag the Users & Groups Data File out of the Preferences folder to the root level of the System Folder. Then restart the Admin program. In a moment the program will ask you to provide a new file server name and Admin key. Enter the same file server name, and a new Admin key.

You can't drag a user's name from the User List window to the Members box in the Group List window.

When creating groups, you must click the Save button in the New Group window after you've given the group a name and *before* you assign users to the group. Make certain the group name has been saved. (The name of the group should appear in the Group List window.)

When assigning membership in a group, you must select each user's name by clicking it in the User List window; to drag it to the Members box in the group information window, you must drag the user's *icon*, not the name.

You've inserted a CD into the drive, but the Admin program won't prepare the volume.

Open the System Folder for the startup disk. Open the Preferences folder and delete the file that begins with the name of the CD you want prepared. Eject and reinsert the CD.

You've inserted a CD into the drive, but users can't access it.

Before users can access a CD, you must share the volume and set access privileges for it in the Access Information window. Once you do so, the CD is available to any user to whom you've given access privileges.

Volumes are missing after starting up the File Server program.

Quit the File Server program and start up the Admin program. Running the Admin program prepares each connected volume. Quit the Admin program and start up the File Server program again.

Mounting CD volumes takes too long.

Because of their large storage capacities, files on CDs are often organized into hundreds of folders, most of which are nested inside other folders. If you assign explicit access privileges for folders on a CD or for the CD itself (for instance, by using the Change All Enclosed Folders option), mounting the CD can become very slow. You can reduce the time: From the Admin program, choose Access Information from the Privileges menu. Select the CD and choose the Compact Volume Access Privileges command from the Privileges menu. This changes the explicit access privileges on that volume to inherited in cases in which the enclosing folder's privileges are the same as those of the items it contains.

A user has forgotten his or her password.

From the Admin program, choose User List from the Users menu. Double-click the user's name in the User List window to open the user's information window. Double-click anywhere in the Password box to select the black dots that appear there. Enter a new password and click Save.

A user's password won't work.

If a user cannot log on to the file server with his or her usual password, check to see if the password has expired. If it has, assign a new one.

What happens when a user's password does not work varies depending on the type of workstation he or she is using and/or the version of AppleShare workstation software installed. Use the following information to help identify the problem:

<i>Workstation</i>	<i>Message or symptom</i>
Macintosh with AppleShare 3.0 workstation software	"Your password has expired. Please set a new password." <i>or</i> "Your password must be changed. Please set a new password."
Macintosh with System 7 workstation software	"An AppleShare system error occurred."
Macintosh with AppleShare 2.0 workstation software	"The attempted connection to the server's volume has failed. Please contact the server's administrator."
Apple IIe	"This volume does not have a proper ProDOS pathname and cannot be used: VOLUME_NAME."
Apple IIGs	Volume list appears dimmed. No error message.
IBM PC (or compatible)	"Error -5019 has occurred."

Generally, if the types of workstations on your network vary, you can avoid these password problems by not using two features: Require New Password on Next Login (in the user information window) and Number of Days until Password Expires (in the File Server Preferences window).

A user cannot find a file or folder.

A user must have See Folder access privileges for the volume and for each folder in the path to the file. If a user can't find a file or folder, he or she may not have the access privileges necessary to see it.

- From the Finder of the server computer, use the Find command (in the File menu) to locate the file or folder. Then from the AppleShare Admin program, choose Access Information from the Privileges menu. Analyze the access privileges and change them if necessary.
- At the user's computer (logged in as administrator), locate the file or folder with Find File, and then use the Sharing command (for System 7) or the Get Privileges command (for System 6) from the File menu to analyze the access privileges and change them if necessary.

Creation and modification dates or times are incorrect.

If the clock on the file server is incorrect, quit the file server program, choose the Alarm Clock desk accessory from the Apple menu, reset the clock, and then restart the file server program. If the server computer's internal battery needs replacing, change the battery following the instructions in the manual that came with your computer, and then set the clock. If a user's clock is incorrect, instruct the user to log off the file server, reset the clock, and then log on again.

Users have access to your personal files.

In general, keep personal files in a separate folder. In the Access Information window, check the folder's access privileges and make sure you are the owner of the folder. Remove any access privileges you assigned for the folder in the User/Group and Everyone checkboxes. Finally, make certain that no one but you has the All Privileges Enabled setting checked in their user information window, unless you specifically want superusers.

Too many people have access to the file server.

You may have allowed guest access. From the Admin program, choose User List from the Users menu. Double-click <Any User>. In the <Any User> information window, make sure the Login Enabled checkbox is not checked. If it is checked, click the box to remove the X—doing so denies guest access.

If you must allow guest access, limit access to folders only, not entire hard disks, and make sure that access privileges for Everyone are enabled for only those folders to which you must allow guest access.

Local work on the server computer is too slow.

Quit any programs that you are not currently using. If local work is still too slow, in the File Server program choose Show Connected Users from the Server menu. In the Connected Users window, set the Maximum scale to a lower percentage. Doing so reserves more processing activity for local work. You can also increase the amount of memory allocated for the File Server program by selecting the program icon, choosing Get Info from the File menu, and increasing the number in the Current Size box. If the problem cannot be solved by adjusting processing or memory size, consider using a faster model of Macintosh computer as the server computer.

Users complain that the server is too slow.

Quit any open programs that you are not currently using. If file server performance is still too slow, in the File Server program choose Show Connected Users from the Server menu. In the Connected Users window, set the Maximum scale to a higher percentage. Doing so provides more processing for users working on the file server. You can also increase the amount of memory allocated for the File Server program by selecting the program icon, choosing Get Info from the File menu, and increasing the number in the Current Size box. If the problem cannot be solved by adjusting processing or memory size, consider using a faster model of Macintosh computer as the server computer.

Problems with the AppleShare Print Server

You try to run the Print Server program and get a message that another copy of print server is already running.

From the Finder, check the Application menu in the far-right corner of the menu bar. If the Print Server program is listed there, select it. If it is not listed, close any open programs and restart the server computer. Then try to start up the Print Server program again.

The Print Server program cannot connect to the printer.

If the print server is in the process of capturing a printer and displays the message “Having difficulties connecting to the printer,” someone else is probably already using the printer. You can click Stop Capture to stop the process or wait for the document or documents currently being printed to be completed.

The print server can't find a printer.

Normally, a print server displays the message “Looking for <printer name>” when it's capturing a printer or preparing to send a document to be printed. If that message remains on the screen for an extended time, it means that the print server can't find the printer.

Make sure the printer is switched on. Check the network connection. If the print server still can't find the printer, switch the printer off and then on again. Check the name of the printer on the test page. If someone has changed the printer's name, use the Namer to rename it.

The Namer is a program found on the printer installation disk. It's described in the manual that came with your printer.

A document won't spool.

If a message on a user's computer tells you that a document can't be printed, or if a document you sent to a print server doesn't spool, make sure the print server is correctly selected as the computer's printer. Printers are listed in the Chooser for Macintosh and Apple II users, and in the printer-selecting software for PC users.

- If the print server isn't listed in the Chooser or PC printer-selecting software, check the print server to make sure that the printer is captured and that the Spooling option is selected in the Options dialog box.
- If the print server still isn't listed, check the network connections. Refer to the documentation for your networking hardware and software to answer any questions about setting up and troubleshooting the network.
- If workstation users send documents to a print server and find that the documents didn't print and weren't listed in the print queue and print log windows, someone on your network may be using an outdated printer driver. Make sure that all Macintosh workstations on your network are using the same printer driver. Then reinitialize the printer by turning it off and then back on.

The print server can't print a specific document.

If the print log shows that a printing error occurred or if an error page is printed, it may mean that the program printing the document isn't fully compatible with the print server program. Have the user print directly to another printer.

If no other printer is available, select the Bypass option in the Options dialog box. Have the user print directly to the printer by selecting its name in the workstation's Chooser or PC printer-selecting software. If the user still can't print the document, consult the manual that came with your printer or with the program you are using.

The top document doesn't print.

If the print server doesn't send the top document in the print queue to the printer, make sure the Printing option is selected. Check the status line of the print queue window for a message reporting that the captured printer is out of paper or that paper is jammed. If you see such a message, correct the problem.

If the status line reports that the print server is looking for the printer, see the information under "The print server can't find a printer" earlier in this chapter. If the Bypass option is selected, see if the printer is busy with documents from workstations that are bypassing the print server and printing directly.

No printed document appears.

If you or a workstation user can't find a document that was spooled to the print queue, check both the print queue and the print log windows, scrolling through them if necessary. If the document doesn't appear in the print queue, it may have already been printed and should appear in the print log, unless it didn't complete spooling or unless more than 1000 documents were added to the print log after it.

- If the print log shows that the document completed printing, ask other workstation users whether they picked up the printed document by mistake. The print log shows whose documents were printed immediately before and after the missing document.
- If the print log shows that the document was deleted from the print queue, have the user spool it again.
- If the print log shows that a printing problem occurred, see the information under "The print server can't print a specific document" earlier in this chapter.

The printer is out of paper.

If a printer is out of paper, or if the printer is jammed, a message appears not only in the status line of the print queue window but also on the screen of every workstation that's spooling a document to the print server—no matter whose document is printing or waiting to print. (Depending on the programs being used, Apple II and PC workstations may not display these messages.) Unless you've set the print server's speaker volume to zero in the Sound control panel, the print server periodically sounds a beep.

If several users are printing multipage documents on a captured printer, you need to check frequently to see that the printer has enough paper. If the print server beeps with no print queue displayed, a printer may have run out of paper or be jammed. Display the print queue windows in sequence until you find the error.

The wrong LaserWriter fonts are printed.

If a user at a workstation prints using automatically downloaded fonts, the printer will use substitute fonts if the correct ones aren't available in the workstation's System Folder when the document is spooled. Make sure the fonts needed for the user's document are downloaded and named correctly.

The AppleShare Print Server software also works with fonts that you download manually: At the print server, select the Bypass option in the Options dialog box. From a workstation, select the printer name from the Chooser or PC printer-selecting software. Use the font-downloading program at the workstation to send the desired fonts to the printer.

If a printer is switched off or reinitialized after manually downloaded fonts are sent, this procedure must be performed again before users can print with the manually downloaded fonts.

Problems occur with ImageWriter documents.

Because some programs handle printing on an ImageWriter by treating each page of a document as a separate document, you might have these problems when spooling documents to captured ImageWriter printers.

- When you delete an ImageWriter document from the print queue while the document is still spooling, the print server program may delete only those pages that have already been spooled, while it continues to spool and print the remaining pages as a separate document.

If this happens, you'll need to wait until the entire document is spooled before deleting it from the print queue, or delete each page individually as the pages are spooled.

- If the print server's hard disk is full when an ImageWriter document is spooling, the print server program will delete each page of the document as it receives it from the workstation (and the document will appear and disappear in the spooler's print queue window) each time a page is spooled and deleted while the hard disk is full.

If disk space becomes available while the document is spooling (if the document at the top of the print queue finishes printing, for example), those pages that are received by the spooler while the hard disk is full will be deleted, but those that are received after disk space is available will be spooled and printed. If this happens, have the workstation user spool the document (or the unprinted portion) again.

- If you quit the print server program while an ImageWriter document is spooling, a dialog box appears asking you whether you want to complete the print job. If you click Complete, the print server may finish spooling only the page that is currently being spooled, and not spool any remaining pages.

If the workstation user wants to print the rest of the document when you restart the print server, have the user spool the unprinted portion again after you restart the print server.

You cannot open a print server log.

If a print server log is 32K or greater in size, TeachText cannot open the report. Use a word-processing program capable of reading plain-text (ASCII) documents to open the report.

Appendix A: Using a Modular Macintosh as a Server Without a Monitor

Once a modular Macintosh computer has been set up as an AppleShare 3.0 server computer, you can provide file services without a monitor, keyboard, and mouse. In some situations, this can be a useful security feature.

If you have given yourself superuser privileges, you can perform some administrative file server tasks from any workstation, but you can expect to reinstall the monitor periodically.

Preparing the computer

Follow these steps to operate the server computer without a monitor:

- 1 If the AppleShare File Server is open, choose Quit from the File menu to quit the program.**
- 2 Enter the number of minutes before termination of file service to give users a chance to log off.**

The preset number of minutes is 10; if you are certain users will log off sooner, enter a smaller number.
- 3 After file service is terminated, open the System Folder.**
- 4 Drag the AppleShare File Server icon (or an alias of it) to the Startup Items folder.**

With the AppleShare File Server program in the Startup Items folder, the file server will start up automatically when the computer is turned on.
- 5 Shut down the computer.**

Choose Shut Down from the Special menu.

6 Turn off the monitor, if necessary.

If your monitor is plugged into the computer, you can skip this step—the monitor should already be off.

7 Disconnect the monitor from the computer.

If necessary, see the manual that came with your monitor or computer for instructions.

8 If your computer uses a video card, remove it from the computer.

Some models of Macintosh computers have built-in video capability; they do not require a video card.

△ **Important** Whenever you remove a card from a Macintosh computer, make sure the power to all your computer equipment is turned off, but leave the power cords plugged into grounded outlets. This keeps your computer system safely grounded. Check the power indicator light on the front of the computer to make sure the power is off. △

9 Press the Power On key to turn on the computer.

The AppleShare File Server should be running. You can confirm that it is running by logging on to the file server from another computer on the network.

Shutting down without a monitor

Follow these steps to shut down an AppleShare File Server that is running without a monitor:

- 1 **Hold down the ⌘ key and type Q to quit the file server program.**
- 2 **Type the number of minutes you want before termination of file service to give users a chance to log off.**

The preset number is 10 minutes; increase this number if necessary to allow for more time. If you hear a beep after you type a number, you've typed an incorrect figure. Press Return and type a different number.

At any time during the shutdown sequence, you can hold down the ⌘ key and type a period (.) twice to cancel the shutdown and return the server to normal operation. (When you're finally ready to shut down, start again at step 1.)

△ **Important** When the server doesn't have a monitor, you can't see if any users are currently logged on; don't shut down the server without giving adequate warning. △

- 3 **Press Return.**

At the specified time, file service is terminated.

- 4 **Press the on/off switch on the back of the computer to shut down the computer.**

Without a monitor, you won't be able to use the mouse to choose Shut Down from the Special menu. Pressing the on/off switch shuts down the computer.

Appendix B: Instructions for Installing AppleShare 3.0 on System 7 Workstations

The instructions in this appendix can be copied and distributed to System 7 users who are upgrading their AppleShare workstation software. Networking software built into System 7 allows users to access information on any file server; however, System 7 users will not be able to receive the full range of server messages nor be able to use the extended password security features of AppleShare 3.0 unless they specifically upgrade to AppleShare 3.0.

Here's what you'll find in this appendix:

- "Installing AppleShare 3.0 Over the Network (for System 7 Users)"

Use these instructions if users are already familiar with Macintosh file sharing and accessing information on a file server. You'll need to make the workstation software available on the file server in a folder called "AppleShare." (If you're unsure how to do so, read "Setting Up File Service," later in this guide.)

- "Installing AppleShare 3.0 From a Floppy Disk (for Ssystem 7 Users)"

Use these instructions if users are unfamiliar with Macintosh file sharing or connecting to a file server. You'll need to make the *AppleShare Workstation* disk available to users.

Installing AppleShare 3.0 over the network (for System 7 users)

Follow these instructions to install AppleShare 3.0 workstation software on your Macintosh. Once the software is installed, you'll be able to receive messages sent by your network administrator when you connect to the file server, and you'll be able to use new password security features.

1 **Connect to the file server.**

See the manuals that came with your computer or your System 7 documentation for details about using the Chooser to connect to the file server.

If your network has more than one file server, ask your network administrator on which server the new AppleShare workstation software is available.

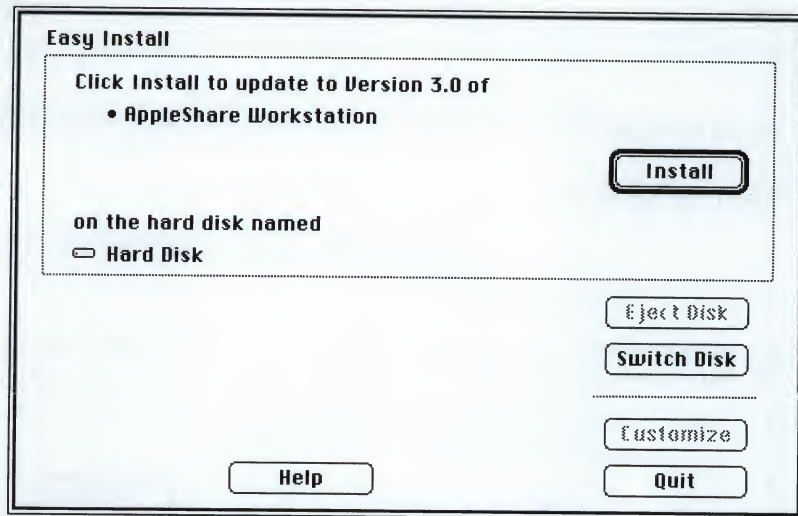
2 **Select the volume containing the new AppleShare software.**

Ask your network administrator for the name of the correct volume.

3 **Double-click the AppleShare folder.**

4 Double-click the Installer icon to open it.

You then see the Installer screen.



5 Click Install.

When the installation is complete, you'll see a message that installation was successful.

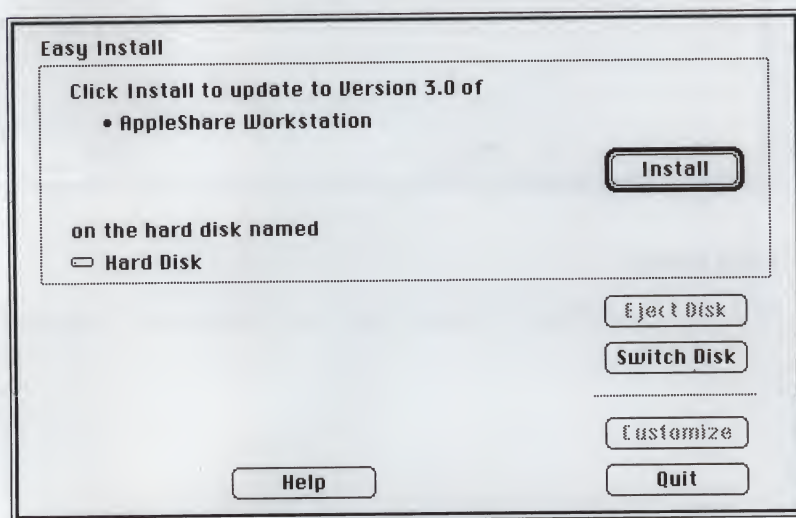
Installing AppleShare 3.0 from a floppy disk (for System 7 users)

Follow these instructions to install AppleShare 3.0 workstation software on your Macintosh. You'll need the *AppleShare Workstation* disk from your network administrator.

1 Insert the *AppleShare Workstation* disk into the floppy disk drive.

2 Open the Installer.

Double-click the disk icon, and then double-click the Installer icon in the window. You then see the Installer screen.



3 Click Install.

When the installation is complete, you'll see a message that installation was successful.

◆ **Using AppleShare file service** To store and retrieve information on an AppleShare file server, you follow the same procedures for using Macintosh file sharing. For information about Macintosh file sharing, see the manuals that came with your computer or with your System 7 upgrade kit. ◆

Appendix C: AppleShare Server 3.0 Specifications

Maximum connected users	120 (default to 50)
Maximum number of open files	346
Maximum number of volumes	50
Maximum number of shared items	50
Maximum number of users in a user/group file	8192 (2000 recommended)
Maximum number of groups in a user/group file	8192 (2000 recommended)
Maximum number of group memberships per user	42
Maximum number of simultaneous file launches	up to 120 (depends on application and connected users)
Maximum number of Apple II network startups	40



Glossary

access privileges The ability of network users to see folders, see files, or make changes to a shared disk or folder. Access privileges are determined by the administrator or by users, and are either *inherited* (the same as the item's enclosing folder) or *explicit* (specifically set).

administrator The person who sets up file and print servers, registers users and their passwords, creates groups, and maintains file and print services.

Admin key A unique word or set of characters that you must enter before you can start up the AppleShare Admin program. You choose the Admin key the first time you open AppleShare Admin.

alias A file that stands for and points to a file, folder, or disk that you use as if it were the original. When you open an alias, you're actually opening its original.

AppleShare-aware Programs designed to be used with AppleShare file servers.

AppleTalk A communications environment in which many different kinds of computers, peripheral devices, and software can work together according to protocols (rules) developed by Apple Computer.

BASIC Acronym for *Beginners All-purpose Symbolic Instruction Code*; a high-level programming language designed to be easy to learn.

capture To take control of a printer so that it prints only documents sent by the print server, unless the Bypass option is selected. Opposite of **release**.

Ethernet A high-speed (10 megabits per second), widely used network type.

EtherTalk Software from Apple Computer that allows you to use AppleTalk network services on an Ethernet network.

Everyone A category of users for which you can set access privileges to shared volumes and folders. The category refers to anyone who logs on to the file server as a guest or registered user.

explicit access privileges See **access privileges**

file server A computer running software that allows many network users to store and retrieve files on the hard disks or other storage devices connected to it.

file server report A document created by the AppleShare Admin program that gives you information about the file server. The report lists registered users and the groups they're members of, and includes information about the size and number of folders and files each user has.

file sharing The capability of sharing files among users on a network. See **Macintosh file sharing**.

group A group of registered users on a network who have a common set of access privileges.

guest A user who can log on to the file server without having to provide a user name or password.

guest access A type of access to the file server that permits any network user to connect to the server for the purpose of file sharing or program linking.

inherited access privileges See **access privileges**.

internet A network made up of two or more interconnected local area or wide area networks.

LocalTalk Built-in networking hardware and software that allows a Macintosh computer to be part of an AppleTalk network.

Macintosh file sharing A feature of system software version 7.0 (and later) that allows file sharing between Macintosh computers on a network.

network A collection of devices such as computers and printers that are connected together and communicate among one another. A network allows users to store, share, and retrieve information as well as share network devices such as printers.

network administrator The person responsible for setting up, maintaining, and troubleshooting a network.

network booting See **network startup**.

network startup The ability of networked computers to start up using software stored on a file server.

owner The registered user who created or was assigned ownership of a folder.

password A unique word or set of characters that must be entered before a registered user can gain access to a volume on the file server.

pathname The complete name of a document beginning with the name of the disk or volume, the name of the subdirectory it's in, and the name of the document. Apple II pathnames begin with a slash, and the parts of the pathname are separated by slashes.

printer driver A program that controls the exchange of information between a computer and a printer.

print log A chronological list of documents formerly in the print queue.

print queue A collection of spooled documents stored on the print server and waiting to be printed in the order in which they were received.

print server A computer running software that lets network users send files to the same printer simultaneously, regardless of whether that printer is currently busy.

print spooling See **spool**.

privilege See **access privileges**.

program linking The ability of an application program to exchange information directly with another program over a network. To use program linking, both programs must have the capability.

protocol architecture The rules that govern interaction on a network. The protocol architecture determines where, when, how, and in what format information is transmitted.

RAM Acronym for *random-access memory*. The part of the computer's memory that stores information temporarily while you're working on it. Information in RAM can be referred to in an arbitrary or random order, hence the term *random-access*.

registered group A group of registered users. The group may be assigned special access privileges to volumes on a file server.

registered user A user who has been given a user name and password by the administrator. Usually, registered users have greater access privileges to volumes on a file server than guests do.

release To remove a printer from the print server's control so that documents can be printed directly. Opposite of **capture**.

shared disk A hard disk, CD-ROM disc, or other storage medium whose contents can be retrieved over the network.

shared folder A folder that is available to some or all network users over the network.

shared item report A report that lists the folders on a shared disk; the names of their enclosed folders and files; and the access privileges, owner, and associated group for each folder.

sharing Making a volume available on a file server so network users can access the volume. The administrator must click Share in the Access Information window before a volume is shared.

spool To send documents to the print server to be stored until they are printed. An acronym for *Simultaneous Peripheral Operations On Line*.

superuser A registered user who has been assigned All Privileges Enabled. A superuser can see and make changes to the contents of all folders on a volume, regardless of whether the folders have been shared.

TeachText files A document containing plain text only. The AppleShare file server reports, shared item reports, file server log, and print log are TeachText files.

Token Ring A widely used network type originally developed by IBM.

TokenTalk Software from Apple Computer that allows you to use AppleTalk services on a Token Ring network.

User/Group A category of users for which you can set access privileges to shared folders and disks. The category consists of any user or group that is registered on the file server.

user name The name chosen by a Macintosh user or network administrator to identify a registered user.

Users & Groups Data File A file that stores the account information about users and the access privileges for volumes and folders.

volume A hard disk attached to the file server, or a folder contained on that disk, that is defined and named as a place to store files.

zone Zones are set up by a network administrator and are used to group devices on a network.



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